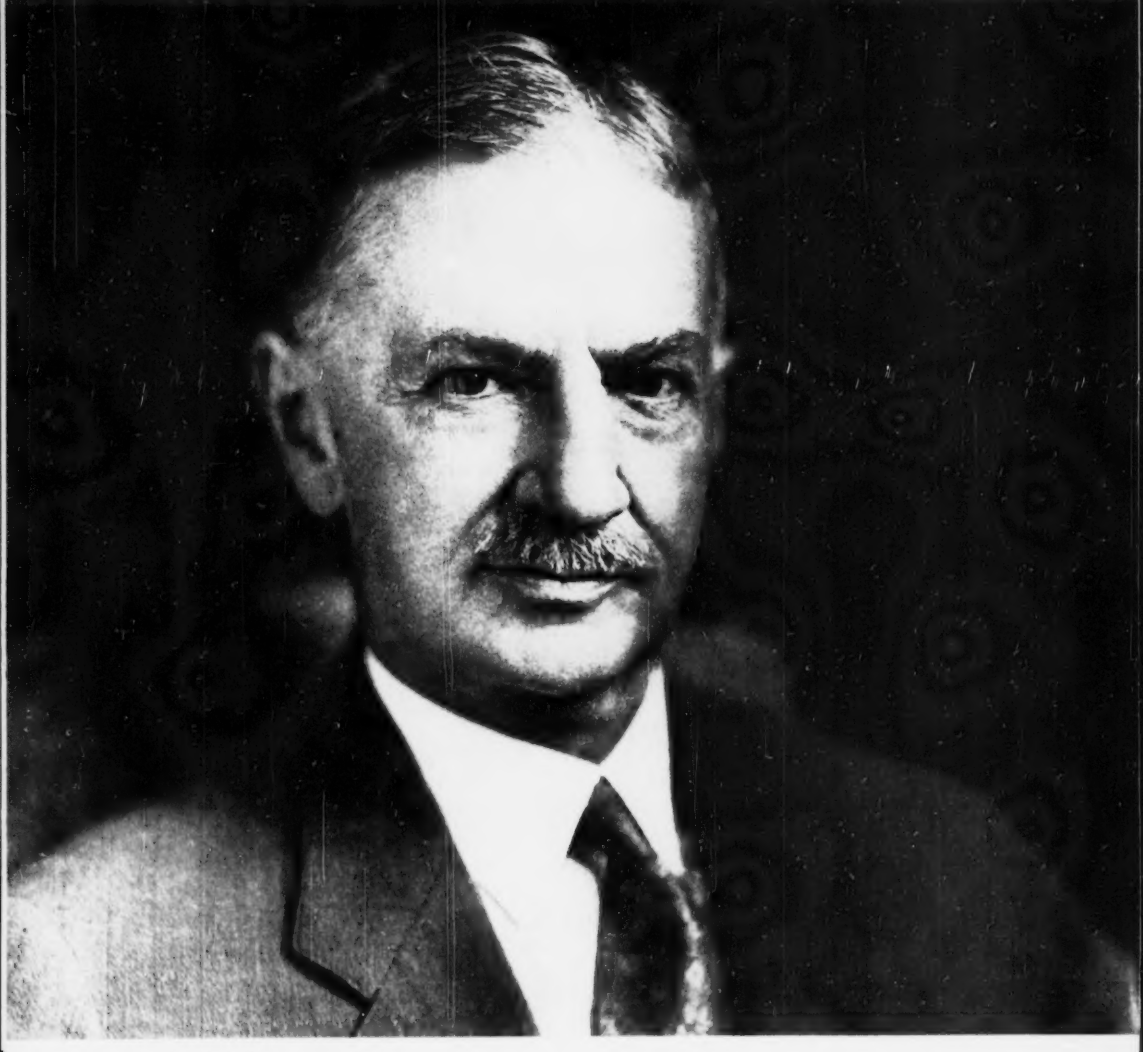
ELECTRICAL WORLD

News Issue

FEBRUARY 5, 1949

A McGRAW-HILL PUBLICATION



Morris E. Leeds, 1948 Edison Medalist

This is General Electric's new secondary capacitor—3-kvar, 240-volts, single-phase—for pole mounting. It is approximately 40 per cent lower in price per kvar than similarly rated secondary capacitors heretofore available.

NEW! low-cost secondary capacitor

opens new fields in kvar generation

Secondary capacitors give the same benefits as primary capacitors for all the system, back to the generators, and in addition they decrease the voltage drop in the transformers and the secondary runs. Secondary capacitors will allow you to have more customers on each feeder, or existing customers can increase their load by 20 to 50 per cent for the same allowable voltage limits between the first and last customer with existing transformers.

Look into this new secondary capacitor for those load areas where either voltage drop or distribution transformer capacity is a problem. In many cases, it has proved most economical. We'd like to go over our calculations with you. Get in touch with your G-E representative, or write direct to *Apparatus Sales Divisions, General Electric Co., Pittsfield, Mass.*

GENERAL ELECTRIC

THE ELECTRICAL WEEK

For electric utilities burning coal, good news. Coal prices seem to be stabilizing. Even better, there may even be a slight decline . . . In New York's Statler Hotel, this week, AIEE held its Winter General Meeting and Charles E. Wilson, General Electric Co president, advised the engineers to forget occasionally that they are engineers and do their duty as citizens . . . Across the city at the Commodore, National Rural Electric Cooperative Association held its biggest convention. "The power trust" received a thorough blasting. But there was some serious business on the agenda. The co-ops were enlisted in the ACSR conductor program which is intended to provide more wire, and future policies and programs were discussed . . . AEC in another report to Congress has indicated that it will press for more work of a non-military nature. What is more, the public is going to be better informed of past and future developments . . . In Detroit, the EEI Accident Prevention Group carefully analyzed accidents of the past year, and Detroit Edison reported on the way it had reduced its accident frequency from 32.7 to 6.6 . . . And in Washington, indications are that Congress will be very generous in voting supplemental appropriations to public power agencies.

If all the radiant energy falling on a single acre of ground could be converted into electricity, it would produce 5,300,000 kwhr a year. In making this assertion Dr. John M. Arthur, Boyce Thompson Institute for Plant Research, Yonkers, N. Y., forgot just one thing—how this can be done.

If it's any consolation to John L. Lewis and the coal industry, electric utilities used approximately 10% more coal and 5% less oil in 1948 than in 1947.

General Electric Co had 249,339 stockholders as of Dec 17, 1948, an increase of 489 over Sept 24, 1948. Of the total, 87% are individuals.

One manufacturer has come out with an electrically heated innerspring mattress. But even better is the current crack about the gas industry. Electrical people, who sound a bit apprehensive at the gas industry's aggressive promotion, point out that AGA still can't develop a workable gas blanket.

India, which now has 500,000 kw of hydro capacity installed, is installing or has in advanced stages of planning 14,000,000 kw additional.

Another job opportunity has opened for college graduates. The job: "electrification adviser." The duties: show rural families how to use more electric power more efficiently. Already about 200 REA co-ops have hired such trained men and women, mostly home economics or electrical engineering graduates.

There was a 41% increase in electric trolley coach deliveries in 1948 over 1947 but a decrease of 20% in streetcars and 42% in gas and diesel buses. Net increase of vehicles in each category was trolley coaches 30%, streetcars 16%, and buses 12%.

Elimination of Daylight Saving Time in California early this year immediately boosted the California pool's peak load by 165,000 kw.

In Cleveland plumbers will take dishwater installations at a $50 flat rate.

By knocking out German and Jap production of aluminum, the war contributed much to the present shortage of the light metal.

In 1948, the three Pacific Coast states of California, Oregon, and Washington produced 37% of the power generated at hydroelectric plants.

Notes From The News

So successful have been Georgia Power's Champion Home Town Contests that the utility by popular demand will hold another in 1949 and increase the total prize money by $1,000. In 1948 accomplishment reports were entered by 159 communities . . . Power revenues of California's Central Valley Project increased from $3,372,698 to $5,279,081 in 1948. Installation of a fourth generator at Shasta Dam was given as the reason . . . South Carolina Power Co is suing the Charleston County treasurer for $29,485 in taxes paid under protest. The utility claims that as a manufacturing establishment it is exempt from paying taxes on Plant Hagood for five years . . . Duquesne Light Co, Pittsburgh, will not appeal a recent State Superior Court decision which may hasten city ownership of the Pittsburgh street lighting system . . .

Because of improved stream flow, the New England Electric System's Connecticut and Deerfield Rivers hydro plants produced 63 million more kwhr in the first three weeks of January than in the corresponding period of 1948 . . . Walter H. Croft of Central Arizona Light & Power Co, is the first president of the newly formed Arizona Society of Professional Engineers . . . Portable gas turbine power plants mounted on railway cars and having a capacity of 3,500 to 5,000 kw have been suggested by Brainard G. Hatch, General Electric turbine

A "LIGHT PIPE" that can be twisted or bent around corners as easily as a garden hose is demonstrated by Dr Richard C. Hitchcock, research engineer at the Westinghouse Research Laboratories. Made of a 2-in. thick flexible rod of plastic, called Fosterite, the "light pipe" can even be twisted into a knot without cracking and still conduct a beam of light to its destination

engineer, as a satisfactory means of supplying towns during emergencies . . . The charter of Montreal Light, Heat & Power, Cons, and 14 component and subsidiary companies has been cancelled. The government, which has expropriated the companies, claims they have "no further reason to exist."

Approximately 3,000 more acres in Mecklenburg County, N. C., have been taken over by the government for the Bugg Island flood control reservoir. Owners will receive a total of $162,800 . . . Mountain States Power Co will take 3,500 kw of power from the Weyerhaeuser Lumber Co . . . The Eloy (Ariz.) Light & Power Co has been sold to a group headed by Marshall Moody, president of Natural Gas Service Co, for $160,000. New name of the utility will be Eloy Water & Electric Co . . . Arkansas-Missouri Power Co and St. Francis Electric Generating Co have filed a joint application with FPC asking authorization for Ark-Mo to lease a proposed 30,000-kw steam plant to be built near Campbell, Mo.

Legislation:

Florida Power Corp has asked the Pinellas County delegation in the State Legislature to work for legislation establishing statewide regulation of utilities. The utility is opposed to county control . . . By a 42-to-1 vote, the Washington Senate passed a bill which would prevent Tacoma from building power dams on the Cowlitz River. The opposition vote came from the senator representing the district where the dams would be built . . . A bill has been introduced in the Arizona House to permit co-ops to invade territory of privately owned companies to serve persons not getting service from the utility . . . The idea of giving Illinois municipalities a share of the state utilities tax has been abandoned . . . In Tennessee, where the Duck River Co-op recently was hit by a lengthy strike, the state cooperative association may press for a law banning strikes in utilities.

Financial:

Memphis Light, Gas & Water Division had a record net profit of $6,991,104 in 1948. Of this $1,000,000 was contributed to the city government. Most of the remainder will go into new plant . . . West Penn Power Co expects to finance its 1949 construction program by selling through competitive bidding $10,000,000 of new first mortgage bonds and $5,000,000 of new preferred stock. In addition, about $2,000,000 will be raised through sale of common to parent West Penn Electric Co . . . Staten Island Edison Corp has been authorized by the New York PSC to sell at competitive bidding $2,750,000 of 30-year first mortgage bonds and 40,000 shares of $100 cumulative preferred stock . . . Delaware Power & Light Co has increased its quarterly dividend on common from 25 to 30¢ . . . Mountain States Power Co has borrowed $750,000 on short-term bank notes to finance expansion needs pending issuance of securities . . . The largest utility debt issue publicly offered thus far in 1949, $50,000,000 in new bonds of Consolidated Edison Co of New York, went to a syndicate headed by First Boston Corp. The successful bid, naming a price of 101.69 on a 3% coupon, produced a net interest cost for the utility of less than 2.92%.

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Trend of Coal Prices Is Downward

Expected Reductions in Labor Costs Resulting from New Mining Equipment and Rise in Industry Capacity Will Cut Cost of Fuel to Electric Utilities

DEVELOPMENTS in the coal mining industry indicate strongly that the downward readjustment in coal prices that took place in the last half of 1948 heralds the beginning of a period of at least stabilization if not moderate decline. The major reasons are

1. A rise in the coal industry's capacity to produce with the result that there is at present sufficient excess to have a definite effect on price levels.

2. Expected reductions in labor costs as a result of the development and installation of new mining equipment.

In the absence of major wage increases or major boosts in transportation charges it therefore may be expected that delivered prices for coal will at least level off for the present and decline moderately over the long run.

On a 280-day basis—probably the best standard, in view of past history, for charting capacity—bituminous production about matched capacity in 1944, with an output of 620 million and a capacity of 624. By 1947, excess capacity had increased to 19.7% by the end of 1948 (estimated), to 25 to 30%. Actually, however, not all of this excess capacity is really "excess" since approximately half is necessary to meet seasonal increases in demands.

Although past relations between capacity and industry profit or loss indicates that mine prices are not seriously affected until over-capacity exceeds 30 to 40%, the rise in the past two or three years coupled with a drop in demand reflecting, among other things, a decline in overseas exports and warmer-than-normal weather in the U. S. market area, has had its effect, as a comparison of current mine prices on certain coals in the New York market shows.

Central Pennsylvania mine-run was priced from $4.10 to $6.35 early in January, 1948. By early July, these had risen to $5.15 to $6.40. In early January, 1949, prices had dropped back to $3.50 to $5.50. In the same periods, Central Pennsylvania stock prices were $4.00 to $6.20, $5.40 to $6.55, and $3.75 to $4.50, and Northern West Virginia 2¼ and 1¼ nut-slack was priced at $3.70 to $4.25, $4.50 to $5.05, and $3.00 to $4.00.

Since there is little likelihood that present capacity to produce will be reduced materially in the immediate future, it can be assumed that it will continue a major factor in holding price levels down. Whether the industry will continue to add to capacity at a rate as great or greater than normal increases in demand in the more-distant future still is highly speculative. Indications are, however, that caution will be the policy in planning increases in the future. Therefore, it should be expected that there will be no increase in extra capacity and possibly a reduction.

Discussion of the course of mine prices also must take into account coal quality and preparation. Quotations on good, well-prepared coal are holding relatively firm and will continue to do so in the future.

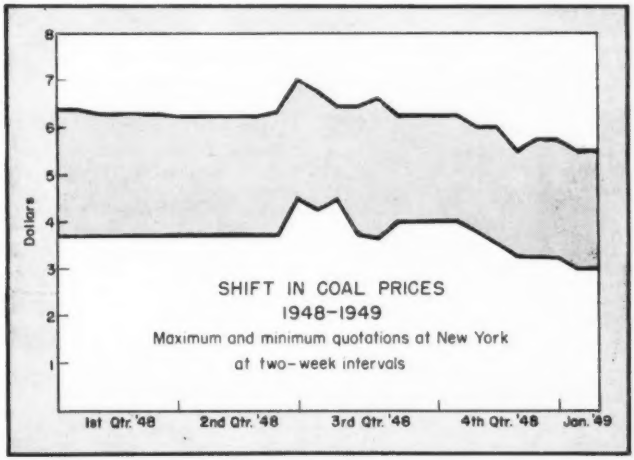
Aside from capacity and competition pressures, the advent of the mining-and-loading machine promises production economies that will have a significant effect on the mine-price level. Installation of the equipment is now under way and in a year or so should become a factor to be reckoned with. The exact effect at any particular mine is dependent upon conditions at that operation. In general, however, it appears that such machines should make it possible for the average operation to achieve a cost reduction of up to 10% or more almost immediately following installation of the equipment. In terms of delivered price, including freight and other charges, the mine reduction, if passed on, would make possible a cut of 5 to 6%.

It should be re-emphasized, however, that it is necessary to get the machines built and in service to achieve the expected economies that would make possible cuts in mine and delivered prices. As the number in service increases and

How Coal Use Will Grow With Electric Power Expansion

	Total Kwhr, Thousands	Kwhr from Coal, Thousands	Percent from Coal	Pounds of Coal per Kwhr	Coal Tonnage—Anthracite, Bituminous
1948	282,000,000	152,000,000	54.0	1.30	99,080,000
1949	293,000,000	159,000,000	54.2	1.25	99,400,000
1950	311,000,000	169,000,000	54.3	1.22	103,100,000
1951	321,000,000	179,000,000	54.4	1.19	106,500,000
1952	343,000,000	189,000,000	55.1	1.16	109,600,000
1953	360,000,000	199,000,000	55.2	1.13	112,400,000
1954	378,000,000	212,000,000	56.1	1.10	116,600,000
1955	397,000,000	223,000,000	56.2	1.08	120,400,000
1956	416,000,000	235,000,000	56.4	1.06	124,500,000
1957	437,000,000	248,000,000	56.7	1.04	129,000,000
1958	458,000,000	261,000,000	56.9	1.03	134,400,000
1959	481,000,000	274,000,000	57.0	1.02	139,700,000
1960	502,000,000	290,000,000	57.7	1.01	146,400,000
1961	530,000,000	307,000,000	57.9	1.00	153,500,000

Source: Edison Electric Institute.



REGISTRATION at AIEE meeting provided the usual meeting place for members who wanted to discuss happenings since they last met

experience makes it possible to use them more efficiently, the benefits in the form of lower costs and prices will spread.

One of the biggest gainers, as it is one of the biggest users of coal (see table), will be electric utility industry. The cost of the fuel is one of the greatest factors in operating costs. The sharp rises in coal costs last June and July sent many utilities scurrying for rate increases. Others merely asked fuel clauses or the extension of such clauses to other rate classifications. Any drop in coal prices or steadying at a low figure will be welcomed by the utilities which must maintain a satisfactory net income to attract the capital needed for expansion.

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New Dial System Speeds Long Distance Phoning

See Centerspread

Installation of a new type of electronic telephone switching equipment in New York and Chicago which makes it possible for an operator to dial some 300 cities has been announced by the American Telephone & Telegraph Co.

The new system, called "operator toll dialing," will cut the time it takes to complete long distance calls to about a minute. In 1927 the required time was 14 minutes, in 1940 four minutes, in 1948 two minutes.

The nationwide extension of toll dialing requires a numbering plan under which the entire country is being divided into about 80 numbering plan areas. Each of these will be designated by a distinctive three-digit code. Then each area within an area will be designated by a three-digit office code, one which does not conflict with the code of any office within the area nor with other area code.

Thus, the operator will generally be able to complete any toll call by dialing a maximum of 10 digits—the six of the area and office codes and the four of the called number.

Engineers Responsible for Effects of Technology, Wilson Tells AIEE

(See Front Cover)

SOME 2,500 engineers present at the Winter General Meeting of the American Institute of Electrical Engineers were advised by Charles E. Wilson, president of the General Electric Co. that they must take up the burden of improving the lot of their fellow men living in a world created by the engineers' own scientific developments.

Wilson spoke at the only general session of the five-day meeting this week at New York. The technical sessions were covered by the engineering staff of ELECTRICAL WORLD and will be reported adequately in the Feb 12 issue.

Before the speech of the GE executive, Morris E. Leeds, chairman of the board, Leeds & Northrup Co, Philadelphia, was presented with the 1948 Edison Medal for "his contribution to industry through the development and production of electrical precision measuring devices and controls."

EVERETT S. LEE, left, AIEE president, has a chat with Vice-President I. M. Ellestad

The presentation was made by Everett S. Lee, AIEE president. Archer E. Knowlton, senior associate editor of ELECTRICAL WORLD and chairman of the Edison Medal Committee, reviewed the history of the medal. I. Melville Stein, vice-president and director of research of Leeds & Northrup, described the career of the medalist.

In his address, "The Professional Estate," Wilson said:

"In your preoccupation with your sliderule, you cannot sagely leave to others—to the economists and politicians and lobbyists—the larger job of defending the way of life which was made possible by your own contribution. You have no right to delegate the duties of citizenship simply because you have a test to run or a specification to write. You have no right to turn away from such problems as education, taxation, government reorganization, national security, civil rights, labor and management, or atomic power development, simply because they may involve you in controversy and take your time."

•

World Current Data Told

The type of electric current (alternating or direct) used in more than 1,600 cities and towns around the world is listed in a reference booklet issued recently by the Office of International Trade, Department of Commerce. The booklet, "World Electrical Current Characteristics," also shows the phase, cycle, and voltages used for lighting and small appliances in each community and the predominating frequencies and voltages in various foreign countries. Copies are available for 15¢ each from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

These L-M Power Fuse Cutouts

handle 7.5 to 46 Kv. . . . 100 and 200 ampere ratings

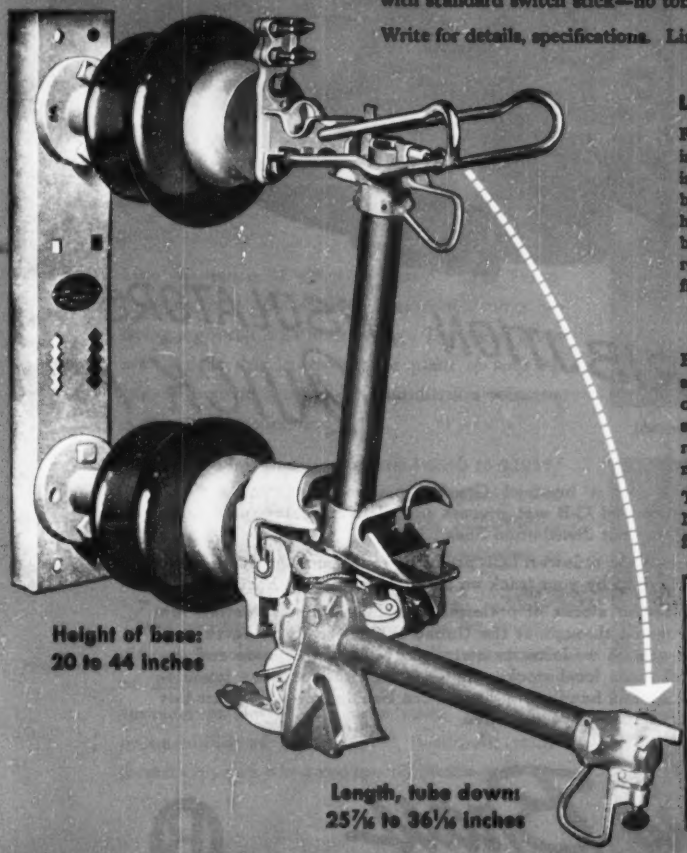
with interrupting capacities up to 6000 amperes

For heavy currents at or near substations . . . for transmission lines . . . wherever high voltage, high rupturing capacity cutouts are required.

A fuse cutout using standard field replaceable fuse links. Upper and lower venting. Simple, positive operation. Link flip-out release double lower hinge. No excessive strain on link. Unique wire spring contact design provides firm contact, free floating action with positive latch at top of tube. No shunts or other current transfer means. For re-fusing, cartridge can be lifted off hinge with standard switch stick—no tongs or special sticks needed.

Write for details, specifications. Line Material Company, Milwaukee 1, Wis.

Length, tube up:
20¾ to 31½ inches

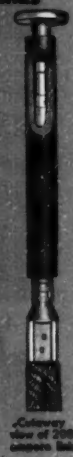


Height of base:
20 to 44 inches

Length, tube down:
25⅞ to 36⅛ inches

L-M Replaceable Power Fuse Links

Field replaceable standard links similar in design and construction to types used in distribution cutouts. No cartridge to buy, no filler tubes to bother with. Links have tin fusible element; strain wire; butt-soldered to top button and lower rod terminal. Long fibre tube housing from button to flexible leader.



Cutaway view of 200 ampere link

Double-Venting Feature

Button closes top of cutout tube. Side spring contacts permit button to blow off under heavy shorts, releasing pressure at both ends of tube. Eliminates recoil and stresses on contacts and mountings.

Time current characteristics conform to NEMA "E" standard SG-11 for power fuse links.

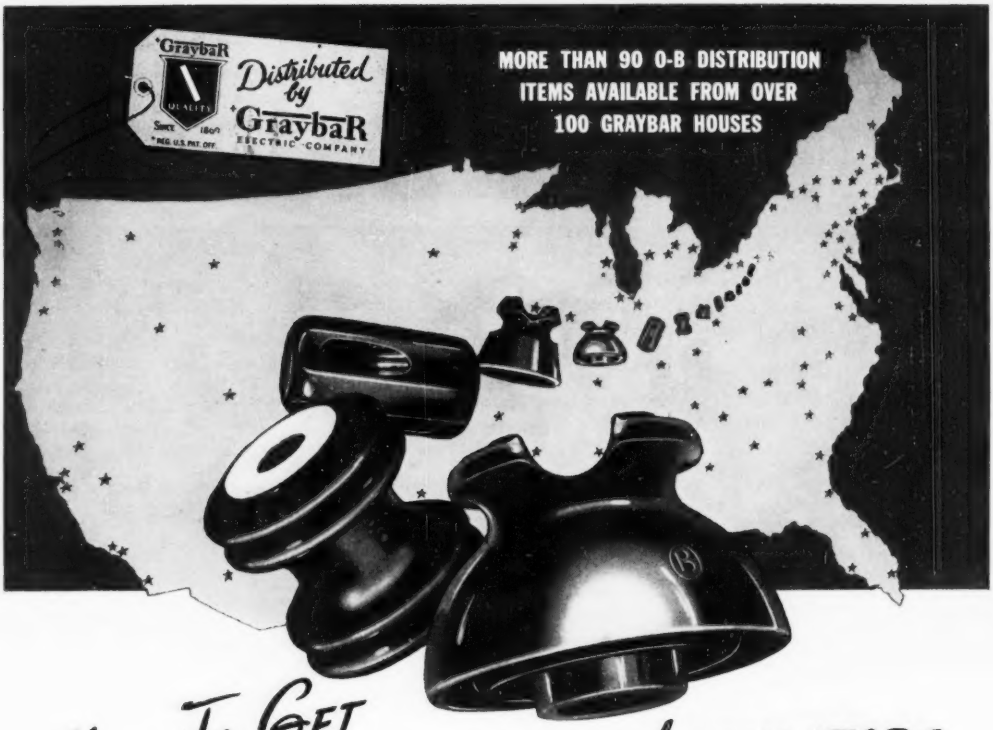
RUPTURING CAPACITIES

Voltage	Type HFO 100-amp rating	Type HXO 200-amp rating
7500 volts	4000 amps	6000 amps
15000	4000	6000
23000	4000	6000
34500	2000	4000
46000	2000	4000

LINE MATERIAL

FUSE CUTOUTS & FUSE LINKS

L-M DISTRIBUTION EQUIPMENT INCLUDES: Distribution Transformers • Fuse Cutouts and Fuse Links • Lightning Arresters • Oil Switches • Pole Line Hardware • Line Construction Specialties • Underground Equipment • Fibre Conduit • Street and Airport Lighting Equipment • Wired Radio Control Equipment • Capacitors



How To Get Good Distribution Insulators Quick!

Now there are over a hundred Graybar houses where you can get immediate delivery of O-B wet process porcelain insulators of assured dependability for your distribution lines.

This delivery is made at lowest LCL prices to your specified destination, or may be picked up by your truck on an over-the-counter basis.

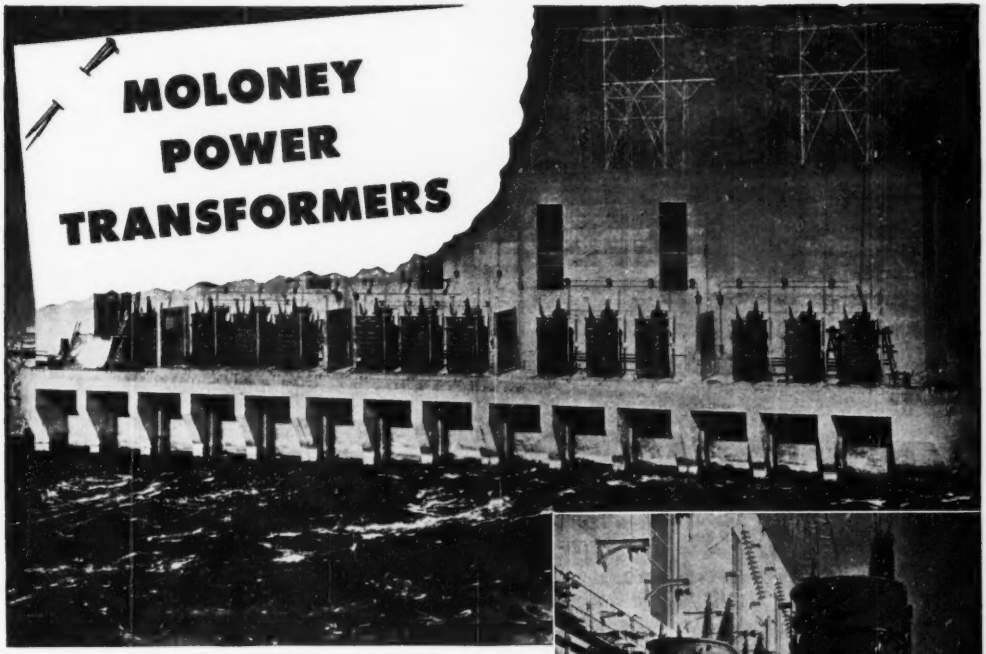
Convenient Graybar stocks of preferred O-B distribution materials are strategically located throughout the United States--ready to serve you. Arrangements can be made to maintain both adequate volume and desired variety of these local stocks. Expensive power company inventories, warehousing and handling problems can be eliminated. Discuss this plan with your Graybar representative.

Ohio Brass (B)

MANSFIELD, OHIO

2938-H

MOLONEY POWER TRANSFORMERS

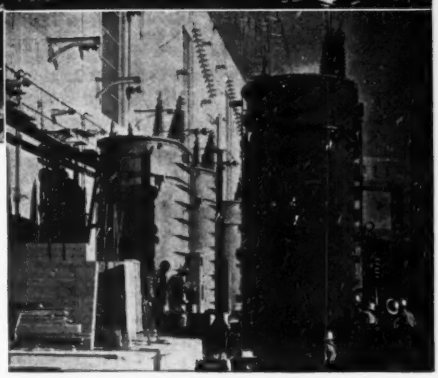


Bureau of Reclamation Photos

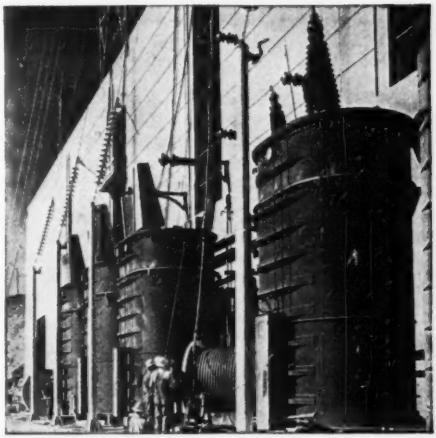
Like thousands of other Moloney Power Transformers, these 10,000 Kva water-cooled units are doing a good job 24 hours a day. Twelve of them are used at this hydro-electric plant to step up generator voltage to suitable transmission voltages. A thirteenth is used as a spare.

Nine of the transformers are rated 6800 to 92955/161000Y volts. The other four are similarly rated but have an additional 39840/69000Y volt winding of 10,000 Kva capacity, permitting a selection or combination of transmission voltages.

These transformers have been providing dependable service since 1943 and, based on past records of numerous other Moloney installations, will continue to do so for many more years. The dependability of well-designed, well-built transformers is yours when you specify Moloney.



Moving transformer into place from transfer truck.



Preparing to connect transformers for operation.

MOLONEY ELECTRIC COMPANY

TRANSFORMERS EXCLUSIVELY SINCE 1896

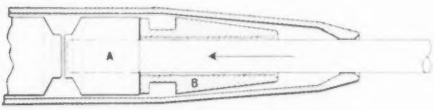
SAINT LOUIS 20, MISSOURI

HERE'S BIG NEWS IN SPLICING

BURNDY SPLICIT with POSITIVE INITIAL GRIP!

A. The Positive Initial Grip

B. Full-Tension Gripping Jaw



Now two grips instead of one . . . the Positive Initial Grip and the Full Tension Gripping Jaw.

The Positive Initial Grip acts like a "head" on the wire . . . holding it initially until tension is applied. This Positive Initial Grip alone withstands a tension in excess of 100 lbs. The wire cannot be twisted out of the Positive Initial Grip, for it turns freely with the wire.

The Full Tension Gripping Jaw takes over as tension is applied, permanently gripping the wire for the full length of the jaw and thus developing and maintaining the full holding power. A *Positive Splice* every time.

Size for size the Splicit is smaller, lighter, more compact . . fully enclosed against weather attack and dirt or grit.

You'll like the new SPLICIT. Samples may be obtained through your local Burndy representative or direct. Available in sizes for Nos. 6, 4, and 2 solid. Other sizes to follow.

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PROMINENT PARTICIPANTS in NRECA's annual meeting were, left to right, Harvey Schermerhorn, assistant manager, Wisconsin Electric Cooperative; Clyde T. Ellis, executive manager of NRECA; President Thomas E. Craddock; and Claude R. Wickard, REA administrator

Broad Expansion Planned for REA at Largest Convention of NRECA

ORGANIZED ELECTRIC cooperatives brought their biggest convention in history—and their rosiest plans for the future—to New York this week. It was an eye-opening show.

As annual conventions of the National Rural Electric Cooperative Association have always done, this year's—at the Hotel Commodore—brought a program that bristled with speeches assailing "the power trust," its "tycoons of tyranny," and its "power charlatans." Two Senators, a Congressman, a Presidential aide, two cabinet members, and the Rural Electrification Administrator told the 3,600 delegates about federal power expansion, the need for farm telephones, power supply, and the REA program—and they spared no one's feelings in doing so.

More significantly, though, the seventh annual NRECA meeting was devoted to two things:

1. Enlisting distribution cooperatives in the ACSR conductor program announced recently by NRECA. Under it, the Reynolds Metals Co has contracted to sell up to 715,000,000 lb of ACSR to the Wisconsin Electric Cooperative between 1950 and 1964. WEC, in turn, undertakes to supply the uncommitted conductor needs of all REA borrowers, plus other public power agencies.

2. Unveiling the future policies and programs of NRECA and thus—to a substantial degree—those of REA itself.

Executive Manager Clyde T. Ellis, of NRECA, told the meeting that while the U. S. Budget Bureau has recommended $3,500,000,000 in new loan funds for REA in the forthcoming fiscal year, "we fear that will not be enough." The Reynolds-WEC conductor contract, Ellis emphasized, has killed the argument that REA should get less funds this year because it couldn't spend them if they were voted by Congress.

He urged also that Agriculture Department funds for rural electrification research be boosted from last year's $100,000 to $500,000.

Both Ellis and REA Administrator Claude Wickard laid out the pattern on the amortization of REA loans. Originally set at 25 years, the limit was boosted to 35 during the war. The demand now is for 50 years as "a very minimum amortization requirement" for such loans. The justification: Cost increases and the increasingly sparse character of unelectrified areas are making new projects harder to certify as self-liquidating. Either the "area-coverage" concept will suffer or longer pay-out periods must be granted.

On the co-op generation question, Ellis declared that "some of our people feel that, in determining whether a generation loan is advantageous to the distribution systems involved, the test should not be alone whether our own generation and transmission would provide cheaper power but also whether it would provide a more secure source of power without restriction on its use."

NRECA is looking toward stronger ties between municipal systems and its member co-ops. Suggested were amendments to the REA act that would facilitate the joint construction of generation and transmission facilities by municipals and co-ops. Threatened was NRECA support for a drive to municipalize existing city distribution systems.

"We feel that about one thorough job of showing the local people what is happening in a city served by a power company that is attacking one of our systems in the surrounding area would tend to make our enemies have a second thought," Ellis declared, immediately after noting that "it would usually be beneficial to the farmers in an area, as well as the city people, if the cities should decide to own their own electric systems."

Ellis suggested that the REA act might be amended to put the agency into the business of financing municipal system expansion, and added:

"It is now as certain as the day is long that we have got to do more and more of our own generation and transmission. The country has run out of power."

He called also for amendment of Section 5 of the 1944 Flood Control Act "to eliminate an apparent limitation on federal transmission lines and to authorize (federal) steam generation."

Ellis assailed the Hoover commission on federal reorganization, which he said indicated last week that it would

Oratory Pays Off

REA-financed co-ops were slow to sign up for conductor under the Reynolds Metals-Wisconsin Electric Cooperative program—until they heard the long debate that covered it at this week's NRECA convention. Then they began to sign.

Harvey Schermerhorn, assistant manager of WEC, said that 100 cooperatives would be signed by the close of the second day's business, Feb. 1. Their contracted demands for ACSR conductor would be "at least 30,000,000 lb," he added. Transmission and generation cooperatives, particularly, Schermerhorn said, are using the program.

Representatives of most ACSR conductor manufacturers were at the first-day debate that followed NRECA Manager Ellis's description of the plan. As signed contracts began to flow in after the debate, Schermerhorn predicted that there would be no difficulty in obtaining enough advances—at 4c per pound for all ordered—to meet the $6,000,000 which must be guaranteed Reynolds by May if the 14-year deal is to stand.

recommend abolition of REA. Its "task force" on REA, he said, "has long been in the employ of the power companies."

REA is going into the telephone business if NRECA has anything to say about it. This issue, an old one, has been rejuvenated since Nov 2. Ellis called for the necessary legislation, and Rep W. R. Poage, Texas Democrat who has long championed REA in Congress, supported it. The Bell system, Poage predicted, won't be so shortsighted as to turn down the extra business its long lines would get from "area coverage" in rural telephony.

REA Administrator Wickard said 1948 was the greatest year in the agency's history. It saw completion of 147,000 miles of line and the addition of 468,900 customers to REA systems. They now have 2,500,000 customers, Wickard added.

He suggested that the Reynolds-WEC conductor contract "offers a bright ray of hope" and added that "it deserves your careful consideration."

From last July 1 until mid-January, 1949, Wickard said, REA loaned $45,000,000 for generation and transmission projects. This amount REA expects it will "have to more than double" by next June 30. But he said there hasn't been any change in REA policy on generation loans and that until Congress makes such change, "I am going to follow conscientiously our present policy."

Featured speakers were Senators George D. Aiken, Vermont Republican, and Estes Kefauver, Tennessee Democrat; Agriculture Secretary Charles Brannan; Interior Secretary Julius A. Krug; and Presidential Assistant John R. Steelman, as well as Wickard and Poage.

Clark McWhorter, a director of the Southwest Rural Electric Cooperative, of Tipton, Okla., was elected new president of NRECA. He succeeds T. E. Craddock, who has held the office for two terms. New vice-president is Clyde H. Seybold, of the Parke County Rural Electric Membership Corp. of Rockville, Ind. Ellis was re-elected executive manager and Avery C. Moore secretary-treasurer.

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Gas Properties Sold

The Pennsylvania Public Utility Commission has approved a group of applications authorizing the Pennsylvania Power & Light Co. Allentown, to transfer its manufactured gas properties and rights in Carlisle and vicinity and Lancaster and vicinity to the United Gas Improvement Co. Philadelphia, for $1,750,000. The properties will be operated by UGI subsidiaries.

AEC Plans to Step up Information, Program, Needs More Industry Help

MORE EFFICIENT weapons (bombs) are coming out of the nation's atomic energy program. But even the Atomic Energy Commission, after its first two years of running the show, is dissatisfied with progress in other directions, chiefly toward developing non-military applications of nuclear energy and in letting the public know what the program is all about.

With weapon production and allied development "rolling"—that's how Chairman David Lilienthal of AEC described it—the Commission plans to step up other phases of its work. At least, that's what it told Congress in its fifth semiannual report this week.

Needs Industry Aid

The report indicates that development of civilian uses of atomic power is well in hand, too. But "the important research and development problems" still are to be solved. To work them out, AEC wants more help from science and from industry's technicians. From this need stems the Commission's concern over its security and information procedures, which it admits are something less than satisfactory.

The Commission has scheduled a series of special reports, to be published soon and made available to the public. They will cover the following:

Reactor Development — By March 1 a report on research on a nuclear "engine" for aircraft will be completed. An extensive survey of reactor development, covering atomic piles for power generation and for pure research, will be ready in mid-March. This document will cover both technical and managerial phases of this program.

Radioactive Waste

Waste Disposal — AEC is now conducting a series of seminars with sanitation engineers and other technicians on the disposal of radio-active waste materials. A report will be made at the close of these sessions—in about a month, Lilienthal estimated.

Educators' Source Book — For the benefit of instructors and authors of textbooks, a source book on atomic energy will describe the phenomena of nuclear fission in simplified form. It won't help any physicist, but it will have some interest for the layman.

Program Description — A three-part handbook primarily for AEC employees and those of its contractors also will be generally available. The Commission describes the handbook's three sections as (1) a primer on atomic facts, (2) a glossary of terms used in the "trade" and (3) a history and description of the program, its plants, and its objectives.

These, and other reports now in the works, will present "the most important public issues" involved in atomic energy development, Lilienthal said. But they will by no means give either the public or industry all the information they want.

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Edison Institute Starts All-Electric Kitchen Drive

Edison Electric Institute has launched a drive to promote the all-electric kitchen. This program, the industry's first national sales effort in the major residential kitchen market since pre-war years, will be carried on by the electric light and power companies in their respective areas, using advertising and sales material prepared by EEI.

RESTOFSKI

McQUISTON

A market of $35 billion in retail sales of electric appliances, with an annual consumption of 165 billion kwhr and electric service revenues amounting to $2½ billion per year, is the industry's long-range goal in this program, Chairman Harry Restofski of EEI's Commercial Division General Committee said.

Built around the slogan "Of Course—It's Electric!" the program is spearheaded by the "Kitchenizer's Digest," a 40-page consumer piece which is "the most authoritative and helpful book ever prepared on the all-electric kitchen," according to T. O. McQuiston, chairman of the Institute's Electric Kitchen and Laundry Committee, which prepared the program. The booklet presents complete information on kitchen planning, wiring, financing, and other questions. Electric companies will make the Digest available to their customers.

Good Training, Housekeeping, Tools Will Cut Accidents, EEI Group Told

GOOD TRAINING, good housekeeping, and good tools will do much to lower the accident frequency rate, James W. Parker, president, Detroit Edison Co. stated at the opening session of the Edison Electric Institute's 40th accident prevention committee meeting, Jan 24, at Detroit. Those words set the theme for the four sessions, which covered nearly all phases of operations and safety practices but put special emphasis on line and station operations.

F. W. Bagnall, superintendent, Overhead Lines Department, Detroit Edison, reported, "Our company has decreased accidents from a frequency rate of 32.7 in 1934 to 6.6 in 1948. This has been brought about by a definite program called Accident Prevention Through Organized Control. That program basically stipulates that the safety engineer is a consultant and that responsibility for accidents remains with supervisors and department heads. Having a place to go for information and a place to assign responsibility make the program work. The results confirm our early thoughts."

Not Yet Satisfied

"Even with this improvement, we are not satisfied that everything has been done," Bagnall continued. "In fact, in 1949 we propose to put additional emphasis on

"1. Making closer checks on men being hired.

"2. Bringing every man's training up to date.

"3. Holding more supervisors' accident prevention meetings.

"4. Making a thorough study of causes of falls and electric shocks to eliminate accidents before they occur.

"5. Holding more informal meetings to give men a chance to 'unload.'

"6. Reviewing more accidents with the men so that they may gain from the experience of others.

"7. Developing willingness on the men's part to report any unsafe condition noted."

Generating Station Accidents

F. C. Harriman, New England Power Service Co, reported that of the 952 generating station accidents between 1943 and 1947, 229 occurred in coal-handling operations, 111 in ash-handling operations, 438 in boiler rooms, 164 in turbine rooms, and 10 in such varied places that they could not be classified. Of these 781 were straight lost-time accidents, 145 were no-lost-time, 11 were penalty or dismemberment cases, and 15 were fatalities.

Breaking accidents down by age groups, Harriman said that 17 occurred to men under 21 years of age, 73 to men between 21 and 25, 133 between 26 and 30, 125 between 31 and 35, 138 between 36 and 40, 127 between 41 and 45, 132 between 46 and 50, 82 between 51 and 55, 69 between 56 and 60, 49 between 61 and 65, and 7 to men over 65. He also stated that 17.7% of the total accidents were experienced by men having less than one year's service with the reporting companies and that 18.3% of the total resulted from contact with falling, flying, or rolling objects.

D. C. Stewart, Niagara Hudson system, reported that of the 173 fatal accidents in 1947, 72.3% resulted from electric shock and burns. Of these 72 occurred while men were on poles, 4 on ladders, 2 in trees, 2 in manholes, and 12 while on the ground.

Improper planning of jobs causes the largest percentage of accidents, J. C. Cunningham, Indianapolis Power & Light Co, stated in reporting on prevention through investigation. He urged a more thorough investigation of each accident so that basic causes could be better dealt with.

W. R. Smith, Public Service Electric & Gas Co, reporting on effects of a new New Jersey law on precautions to be taken in proximity of high voltage lines for the prevention of accidents, stated that the law is working and that boom and derrick contact accidents are down.

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Co-op Seeks to Purchase Puget Sound Properties

The Washington State Department of Public Utilities has been asked for permission to purchase most Puget Sound Power & Light Co properties in King and Pierce Counties by the Consumers' Non-Profit Corp, a PUD-sponsored cooperative headed by Monte J. King of the Skagit PUD.

The proposed price is reported to be about $25,000,000. It does not include generating plants at Electron and on the White and Snoqualmie Rivers nor their transmission facilities, which presumably would be purchased by individual PUD's.

Since King and Pierce Counties have no PUD's, the Consumers' Corp was formed several years ago to facilitate a long-pending system-wide purchase plan.

Birmingham Electric Dedicates Substation

(See Centerspread)

Birmingham Electric Co has cut in its $1,000,000 Powell Avenue feed-in substation. With other facilities completed in 1948 the new substation will increase power capacity to the Birmingham district approximately 50%.

The new facilities were dedicated at ceremonies in which President C. S. Thorn threw the switch to energize the substation. The largest single addition ever made to the system, it added 80,000 kva to the present feed-in capacity.

Installed at the substation were two 40,000-kva, three-phase transformers, three times larger than any now in the company's service. These are Birmingham Electric's first self-regulating transformers.

Underground Circuits Used

The strategic location of this substation was made possible by the use of 1.75 miles of 110-kv Oilostatic underground circuits. Advantages are greatly improved voltage regulation and service reliabilty, reduction of system losses, improved system power factor, and economy in present and future costs for system capacity.

If they had been used, 13.2-kv overhead lines of equivalent capacity, from the four feed-in substations on the city's outskirts, would have cost about 50% more than the 110-kv lines and cables—with none of their advantages. It is doubtful that suitable routes for this number of overhead lines could be found. The transformer capacity could be supplied more economically in large units at Powell Avenue, an attended switching and distribution substation where 13.2-kv busses and feeder equipment already in use were available for distributing the power.

Pay Out in Six Years

It is estimated that the reduction in 13.2-kv system losses, which amount to $75,000 annually with present loading, will save an amount equal to the total cost of the 110-kv circuits in six years or less. The 13.2-kv system losses have been reduced to less than 50% of their former value, including kvar as well as kw losses. The charging kva of the 110-kv cables as well as the reduction in kvar system losses improves system power factor.

In addition, without the Powell Avenue substation, the loss of any one of the four feed-in substations resulted in voltage too low for satisfactory operation in the heavily loaded central portion of the city as well as in its own service area.

House Supplemental Appropriations Bill Generous to Power Agencies

CONGRESSIONAL APPROPRIATIONS will present few problems to federal power agencies this year if their current successes in that field continue.

The House Appropriations Committee speeded up hearings this week on a supplemental bill providing $480,700,000 for federal spending before next July 1. Of the total requested some $61,000,000 was earmarked for Tennessee Valley Authority, Interior Department, and river control work of the Army Engineers. The committee also had started hearings on regular appropriations for fiscal 1950 for these and other power bureaus.

Policies Affected

The supplemental bill, in line with recommendations of the President, would affect policies as well as funds of TVA and the Interior Department. Important policy reversals requested by the White House included the following:

1. Allotment of $3,000,000 to TVA to start a steam generating station at New Johnsonville, Tenn., and $450,000 to begin a hydro unit at both Guntersville and Chickamauga Dams.

2. Reinstatement of Reclamation Commissioner Michael Straus and California Regional Director Richard Boke. The President sent a special request to Congress for repeal of language in the 1949 Interior Appropriation Bill which terminated the salaries of these two officials as of Jan 31.

3. Removal of most other restrictions in the Interior bill that affect Reclamation. These include an over-all ceiling of $48,000,000 on the Bureau's fiscal 1949 payroll; limits on spending for transmission facilities, engineering work, and use of "force-account" construction crews.

Give Reclamation $17,100,000

The supplemental bill would give the Bureau $5,000,000 for construction of the Davis Dam project, $2,000,000 for the Colorado-Big Thompson project, $5,000,000 for the Columbia Basin, and $5,100,000 for Missouri Basin work. Bonneville Power Administration would get $6,509,000 in new appropriations and $1,563,000 in contractual authority. An additional $131,000 was requested for the Southwestern Power Administration.

Of the $30,000,000 sought for river improvement by the Army Engineers, $8,000,000 would be spent on McNary Dam, $1,500,000 to start Ice Harbor Dam, and $2,000,000 for Chief Joseph (Foster Creek) Dam, all Columbia Basin projects. The Engineers also would receive additional funds for the following hydroelectric projects: Wolf Creek, Ky., $7,000,000; Center Hill, Tenn., $1,500,000; Detroit, Ore., $2,000,000; Fort Gibson, Okla., $2,500,000; Buggs Island, Va.-N. C., $1,500,000; Clark Hill, Ga., $1,500,000.

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Berry Quits Commission

H. F. Berry, chairman of the Saskatchewan Power Commission since 1945, has resigned. He formerly was president and managing director of the National Light & Power Co at Moose Jaw.

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Renew Iowa Franchise

Voters of Cushing, Iowa, have approved a 25-year renewal of the Iowa Public Service Co's electric franchise.

SEC RULINGS

JERSEY CENTRAL POWER & LIGHT CO has been authorized to issue and sell $3,500,000 of first mortgage bonds (due 1978) at competitive bidding. The order also authorized a $1,000,000 cash capital contribution to Jersey Central by its parent, General Public Utilities Corp. After completion of the financing, Jersey Central will increase the par value of the 1,053,770 shares of its outstanding common stock from $1 to $10 per share by the transfer from capital surplus to the common stock account of $9,483,930. Proceeds of the bond issue and capital contribution are to be used by Jersey Central for construction of additions and betterments. (Release No. 8783).

ENGINEERS PUBLIC SERVICE CO, New York, holding company now in the process of liquidation, has received authorization to issue to Irving Trust Co an $850,000 short-term promissory note maturing in nine months and bearing interest at 2½%. Proceeds of the note issue and $50,000 of treasury cash will be used to pay off a $900,000 note now held by Irving Trust Co and maturing Jan 27, 1949. Engineers, which owns 162,612 shares of the common stock of Virginia Electric & Power Co, contemplates the payment of the proposed note prior to the maturity date thereof by use of the proceeds of the sale of a part of such shares. (Release No. 8785).

MEETINGS

National Association of Purchasing Agents—Public Utility Buyers Group, Mid-Winter Conference, Edgewater Beach Hotel, Chicago, Ill., February 7-8.

Edison Electric Institute—Transmission & Distribution Committee, Netherland Plaza Hotel, Cincinnati, February 10-11; Electrical Equipment Committee, New Jefferson Hotel, St. Louis, February 14-15; Annual Sales Conference, Edgewater Beach Hotel, Chicago, April 5-7; Engineering Committee, Edgewater Beach Hotel, Chicago, May 2-4; Annual Meeting, Traymore Hotel, Atlantic City, May 31-June 2.

Missouri Valley Electric Association—Power Sales Conference, February 10-11; Sales & Rural Committee, February 25; Accounting Committee, March 7; Engineering Conference, April 6-8; Rural Roundtable, May 4, Sales & Rural Conference, May 5-6; Accounting Conference, May 12-13; Annual Meeting, May 17. All meetings at the Hotel President, Kansas City, Mo.

Pennsylvania Electric Association—Prime Movers Committee, Hotel Hershey, Hershey, February 10-11; Systems Operation Committee, Fort Stanwix Hotel, Johnstown, Pa., February 17-18; Relay Subcommittee, Roosevelt Hotel, Pittsburgh, Pa., February 17-18; Transmission & Distribution Committee, Benjamin Franklin Hotel, Philadelphia, February 24-25.

National Association of Home Builders—Convention and Exposition, Stevens Hotel, Chicago, February 20-24.

National Adequate Wiring Bureau—Annual Conference, Stevens Hotel, Chicago, February 24-25.

American Society for Testing Materials—Spring Meeting and Committee Week, Edgewater Beach Hotel, Chicago, February 28-March 4; Annual Meeting, Chalfonte-Haddon Hall Hotel, Atlantic City, June 27-July 1.

Exposition of Electrical Progress—Municipal Auditorium, Kansas City, Mo., March 2-6.

Institute of Radio Engineers—National Convention and Exposition, Hotel Commodore and Grand Central Palace, New York, March 7-10.

National Electrical Manufacturers Association—Winter Convention, Edgewater Beach Hotel, Chicago, March 13-18.

Conference for Protective Relay Engineers—Texas A & M College, College Station, Tex., March 14-16.

Oklahoma Utilities Association—Annual Convention, Hotel Tulsa, Tulsa, March 17-18.

Southeastern Electric Exchange—Engineering & Operation Section, General Oglethorpe Hotel, Savannah, Ga., March 24-25; Annual Conference, Boca-Raton Club, Boca Raton, Fla., April 13-15.

International Lighting Exposition and Conference—Stevens Hotel, Chicago, March 29-April 1.

American Institute of Electrical Engineers—Conference on the Industrial Application of Electron Tubes, Statler Hotel, Buffalo, N. Y., April 11-12; South West District, Baker Hotel, Dallas, Texas, April 19-21.

National Association of Corrosion Engineers—Annual Conference and Exhibition, Netherland Plaza Hotel, Cincinnati, April 11-14.

Midwest Power Conference—Sherman Hotel, Chicago, April 18-20.

National Electrical Wholesalers Association—Annual Convention, Netherland Plaza Hotel, Cincinnati, Ohio, May 1-6.

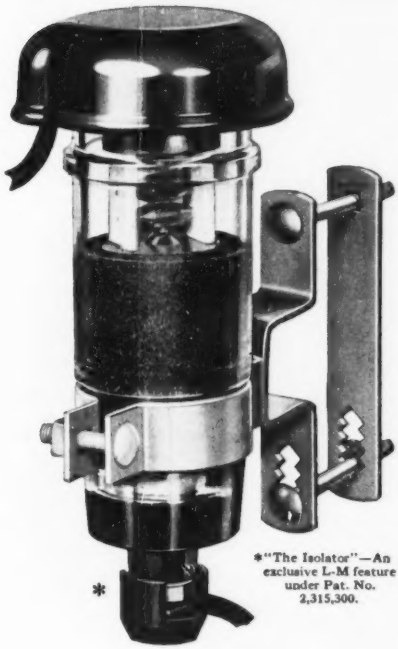
American Society of Mechanical Engineers—Spring meeting, Hotel Mohican, New London, Conn., May 2-4.

Electrochemical Society—Spring meeting, Benjamin Franklin Hotel, Philadelphia, Pa., May 4-7.

Instrument Society of America—Spring meeting, Royal York Hotel, Toronto, Canada, May 12-13.

National Fire Protection Association—Annual meeting, Fairmont Hotel, San Francisco, Calif., May 16-19.

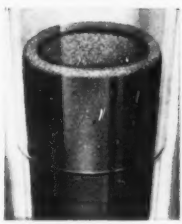
To assure long-lasting protection for your distribution system, specify L-M Heavy Duty Lightning Arresters



*"The Isolator"—An exclusive L-M feature under Pat. No. 2,315,300.

To afford maximum protection, a lightning arrester has to go into action fast to dissipate the destructive surge; it has to be able to handle high-amperage and long-duration surges equally well; it must be absolutely moisture-proof; and it must have provision to eliminate line grounding in case of internal damage. The L-M Heavy Duty Lightning Arrester is built to fulfill all of these requirements. Its design came out of exhaustive research and the most severe tests. It has an outstanding service record on distribution lines in all parts of the country, in most parts of the world. Two of its main features are:

The Characteristic Element



Heart of the L-M Valve Type Lightning Arrester is the characteristic element. This element is a chemically stable refractory compound, with an inorganic noncarbonizing binder forming the grains into a solid block, molded into the glass or porcelain body to give maximum effective utilization of all available space.

This characteristic element has an internal resistance value (IR drop) low enough to give superlative protection to transformer windings, consistent with the ability to interrupt the follow current at all times. It remains electrically and chemically unchanged through hundreds of surges, years of service.

The Precision Ladder Gap

Between the line lead and the characteristic element is an electrically fast ladder gap; sturdy cylindrical electrode members of a special alloy, carefully machined from solid stock, and supported in an accurate frame of steatite porcelain. This unit transmits severe discharges without burning or pitting, and allows the arrester to go into action fast.

Weatherproof Seals

L-M Heavy Duty Arresters are built to shut out moisture, and thus insure long life and prevent radio interference. A synthetic gasket is compressed between metal cap and glass body at top. Metal cap is spun over glass. Space between outer cap and body is filled with sealing compound. Synthetic gaskets placed at bottom of housing and on isolator. Concave bottom of body is entirely filled with compound.

Meet New NEMA Standards

All L-M Heavy Duty Lightning Arresters meet the new NEMA standards. In repeated tests, these L-M Arresters maintain uniform performance characteristics.

Made in 6 Sizes—Ratings from 1 to 15 KV.

Write for Special Lightning Arrester Bulletin

A 24-page booklet on the design, construction, selection and installation of L-M Valve Type Lightning Arresters will be promptly sent on request for Bulletin 40151. Line Material Company, Milwaukee 1, Wisconsin.

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LIGHTNING ARRESTERS

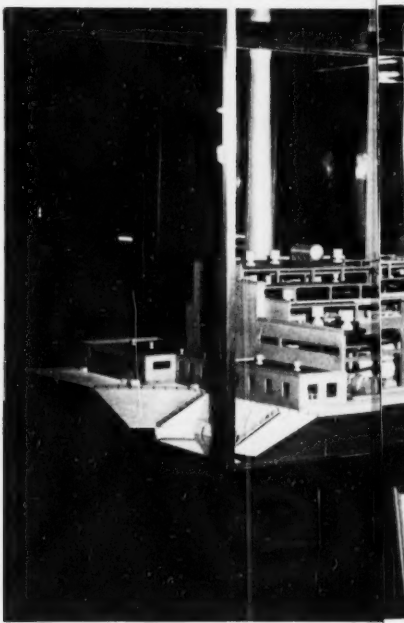
L-M DISTRIBUTION EQUIPMENT INCLUDES: Distribution Transformers • Fuse Cutouts and Fuse Links • Lightning Arresters • Oil Switches • Pole Line Hardware • Line Construction Specialties • Underground Equipment • Fibre Conduit • Street and Airport Lighting Equipment • Wired Radio Control Equipment • Capacitors

THE INDUSTRY IN PIC

DISTRIBUTION as well as generation gets attention in utility expansion. President C. S. Thorn, Birmingham Electric, throws switch cutting in 110-kv substation in Birmingham

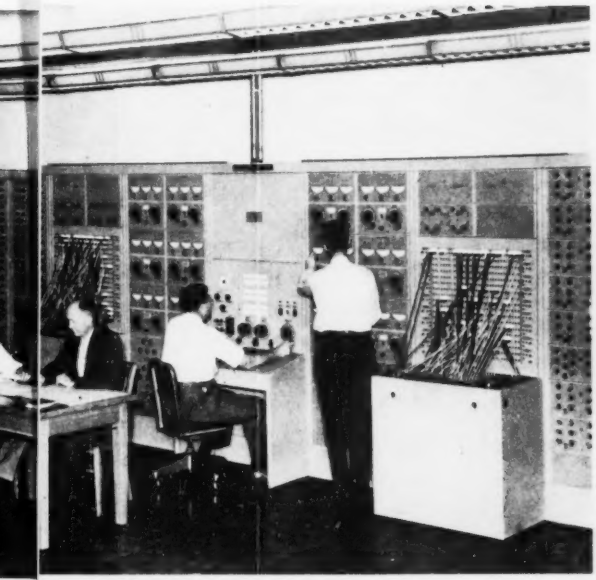
POWER PROJECTS will be speeded through the us thi office of the chief engineer at the Bureau of Recla ion

TOLL DIALING operator in New York using the ten keys that enable her to dial some 300 cities. New electronic equipment halves the time needed to complete long distance calls

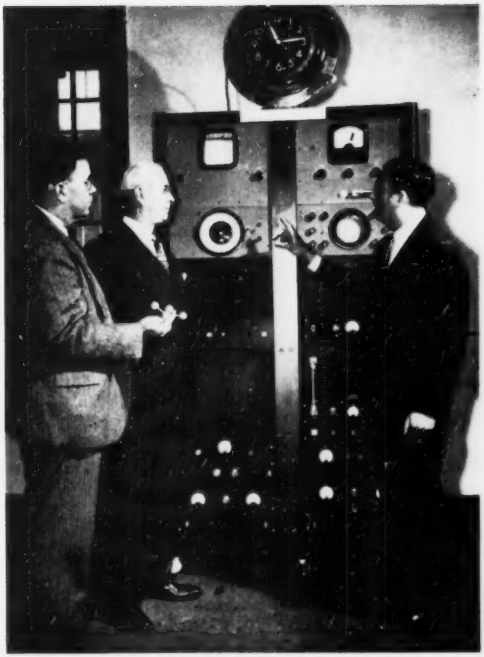


H. T. PRITCHARD, Indianapolis Power & Light pres ent under construction. Plant will have four 40,000-kw uts.

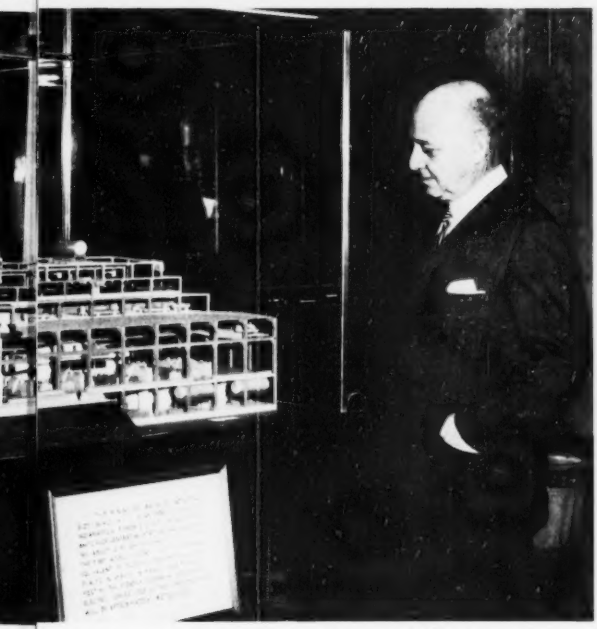
CTURES



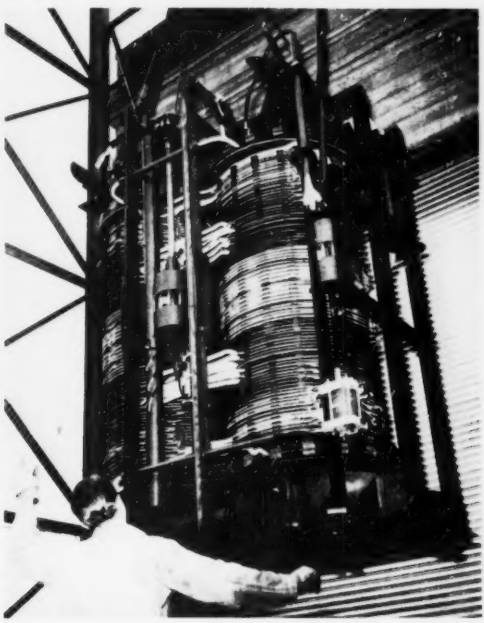
he us Recla this a-c network analyzer built by the General Electric Co and installed in the ion in Denver. Provision has been made to expand the analyzer if necessary



"ATOMIC CLOCK," most accurate in the world, is explained by its developer, Dr Harold Lyons, at the National Bureau of Standards



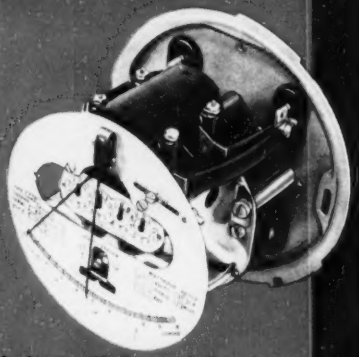
present, finds it easy to admire a model of his company's White River Plant now kw uts. The first will go into operation shortly, the last at a date yet undecided



JUST ORDINARY is this transformer of the Pacific Gas & Electric Co.; but before it was rewound, its coils were made of sterling silver

Demand metering for small KW loads now economically practical for

SINGLE OR POLYPHASE CIRCUITS



Combination Watthour and Thermal Demand Meter for single-phase circuits.

Economical demand metering now can be applied to both single *and* polyphase circuits . . . even where the load is small! Westinghouse combines Thermal Demand Meters and Watthour Meters into a *single* unit. Only one mounting is required. Installation is greatly simplified.

These *two-in-one* meters answer your need for Demand Meters with low maintenance characteristics . . . to *economically* meet the continued extension of demand rates to smaller loads. Standardization and simplified design make possible a low first cost. Many parts are the same as standard Watthour Meters. Stocking is simplified.

If your problem is *economical* demand metering for kw *or* kva loads . . . single or polyphase circuits . . . investigate Westinghouse Meters. They provide the information accurately *and* economically. Write for C.S. 42-337 and C.S. 42-338. Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Penna.

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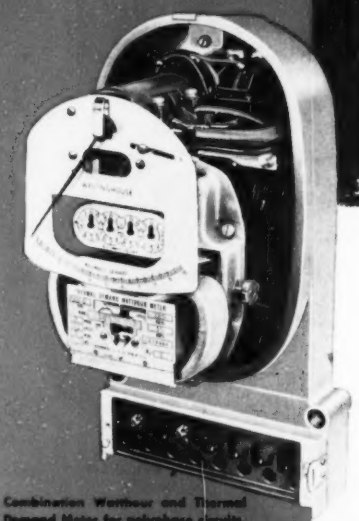

Combination Watthour and Thermal Demand Meter for polyphase circuits.

YOU CAN BE **SURE**..
IF IT'S
Westinghouse

Westinghouse
PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

Watthour and Demand Meters for Any Job

Electric Industry Will Observe Edison Birthday

The electric industry, utilities and manufacturers alike, will join on Feb 11 in the nation-wide observance of the 102nd anniversary of the birth of Thomas A. Edison.

Both have liberal representation on the Edison's Birthday Committee, which sponsors the annual observance. Included on this committee are Charles F. Kettering, honorary chairman; Ernest R. Acker, Alex D. Bailey, Walter C. Beckjord, Col H. S. Bennion, J. E. Davidson, Willard H. Dow, Winans Freeman, H. D. Keresey, W. C. Mullendore, D. R. G. Palmer, J. W. Parker, Walter E. Poor, Philip D. Reed, Frank M. Tait, Ralph H. Tapscott, James M. Todd, Edwin Vennard, A. F. Wakefield, Samuel B. Williams, Charles E. Wilson and D. Robert Yarnall.

Many electric utilities will feature an Edison theme on their house organs and advertising. Some will sponsor special radio programs. Observance by manufacturers will be similar.

The Edison Foundation has just released the first of a projected series of studies to deal with Edison's inventions. The study on incandescent light has been published as an illustrated book of 80 pages. It brings out the work necessary by Edison to bring his invention to a practicable point and emphasizes the famous "Edison method."

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Contract to Brown Boveri

Brown Boveri Corp of New York, subsidiary of a Swiss company of the same name, has been awarded the contract to furnish and erect two 25,000-kw air-cooled turbo-generators at the Cleveland Municipal Lake Road Plant (see EW, Jan 29, Page 94). The Swiss won the award on a bid of $1,140,000, about $400,000 less than those from three large American concerns, Allis-Chalmers Manufacturing Co, Westinghouse Electric Corp, and General Electric Co. for hydrogen-cooled generators. All three American bids included a 10% escalator clause that would allow for increased costs.

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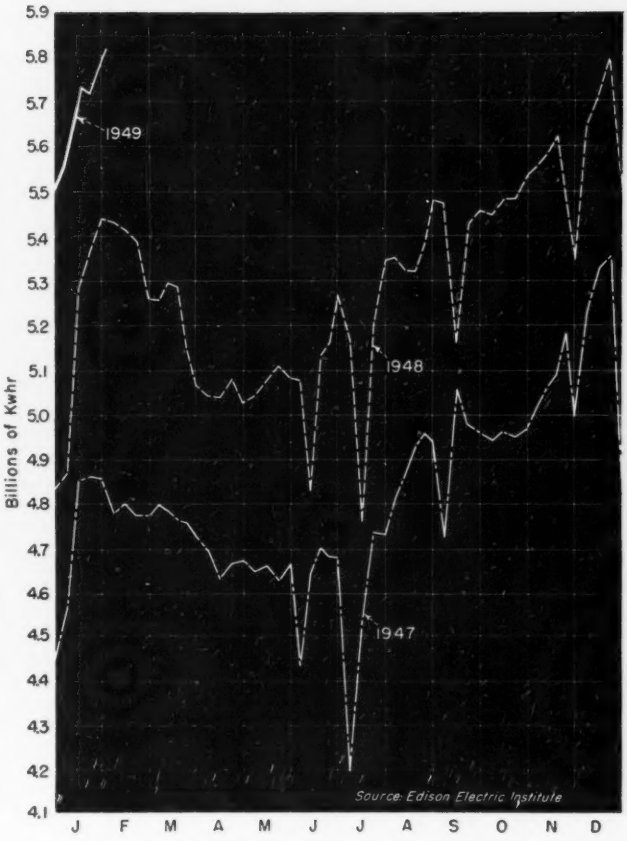
T. O. Moloney, Sr, Dies

Thomas O. Moloney, Sr, chairman of the board of directors of the Moloney Electric Co, St. Louis, died on Jan 30, just two days after the death of his wife. He was 76 years old. A prominent figure in the electrical industry, Mr Moloney spent his entire business life with Moloney Electric.



Output Hits New Record High

Breaking all previous records, the output curve moved upward to a record high of 5,810,034,000 kwhr during the week ended Jan 29, 1949, according to figures released by the Edison Electric Institute. The previous high was reached for the week ended Dec 18, 1948, when the electric light and power companies of the country distributed 5,790,191,000 kwhr.

The total for the week ended Jan 29 compares with 5,768,934,000 kwhr for the preceding week and with 5,429,202,000 kwhr for the corresponding week of 1948.

The percent change for the country over the corresponding week of 1948 was 7.0. For the preceding week it was only 6.1.

New England reported a larger decrease for the week ended Jan 29 under the corresponding week of the previous year, 2%. The Rocky Mountain group again reported the most substantial increase, 23.3% attributable partly to the spurt in power distributed because of the increased use of electrical heaters during the blizzards. The South Central group held second place.

Weekly Output, Millions Kwhr

1949		1948		1947	
Jan 29	5,810	Jan 31	5,429	Feb 1	4,777
Jan 22	5,769	Jan 24	5,436	Jan 25	4,856
Jan 15	5,727	Jan 17	5,370	Jan 18	4,857
Jan 8	5,742	Jan 10	5,278	Jan 11	4,853
Jan 1	5,562	Jan 3	4,868	Jan 4	4,574
1948		**1947**		**1946**	
Dec 25	5,508	Dec 27	4,830	Dec 28	4,442
Dec 18	5,790	Dec 20	5,368	Dec 21	4,940
Dec 11	5,705	Dec 13	5,327	Dec 14	4,778
Dec 4	5,646	Dec 6	5,218	Dec 7	4,673
Nov 27	5,349	Nov 29	4,983	Nov 30	4,448
Nov 20	5,627	Nov 22	5,180	Nov 23	4,765
Nov 13	5,571	Nov 15	5,084	Nov 16	4,670

Percent Change from Previous Year

	Jan 29	Jan 22	Jan 15
New England	− 2.0	− 1.8	− 1.9
Mid-Atlantic	+ 2.6	+ 1.2	+ 2.2
Central Industrial	+ 8.1	+ 6.3	+ 6.6
West Central	+11.0	+ 8.8	+ 7.9
Southeast	+ 6.8	+ 5.0	+ 6.9
South Central	+12.3	+12.7	+11.6
Rocky Mountain	+23.3	+22.8	+24.3
Pacific Coast	+ 7.4	+ 9.4	+ 9.3
Total United States	+ 7.0	+ 6.1	+ 6.6

IN THE INDUSTRY

RICHARD N. LARKIN

TEARS ARE BEING shed and dentures are being clacked angrily throughout the aluminum conductor industry these days—and perhaps the worst of it is that no one can find anything wrong with that Reynolds Metals-Wisconsin Electric Cooperative ACSR contract.

Probably it should be said that no one can find anything legally wrong with it. Those who don't like it—and that seems to include just about everyone in the aluminum conductor business except Reynolds—can find a million things wrong with the deal. But if anyone's discovered any legal gimmick in the contract, he's been quiet about it. The feeling is, there is none.

The deal is one whereunder Reynolds has contracted to sell up to 715,000,000 lb of ACSR to the Wisconsin Electric Cooperative during the 14 years beginning Feb 1, 1950. WEC, in turn, signs REA-financed power systems to contracts which have the co-ops buying all their ACSR from WEC for the eight years beginning Feb 1, 1950—all such ACSR, that is, that the co-ops haven't contracted for already.

Specifically co-ops sign for everything they'll need—in ACSR—between now and Feb 1, 1953, except what is now on order. They sign for all the ACSR they will need between Feb 2, 1953, and Feb 1, 1958. Both amounts are to be bought from WEC. REA ok'd the deal.

It develops that REA isn't going to finance a co-op-owned enterprise like the pole-treating plants it loaned money for immediately after the war. Instead, REA will lend money to its borrowers with which to pay the 1¢ per lb advance on the 1950-53 deliveries which co-ops must make when they sign. The advance will be split—1¢ to WEC, 3¢ to Reynolds—to be repaid with interest when the ACSR is delivered.

Part of the trade protests that the price schedules set up in the Reynolds-WEC contract call for the sale of ACSR to co-ops at 3¢ per pound above going prices today. It seems clear that there will be some disparity in price, although no one has proved that it will be exactly 3¢. The National Rural Electric Cooperative Association, which helped set up the deal, sees offsets to minimize the disparity.

One Washingtonian—whose interest is reportorial only—wondered how one federal agency, REA, could ok an exclusive contract so blandly while another, the Justice Department, wages war on exclusive contracts, notably that between Western Electric and AT&T.

H. D. Seaton, president of the Southern Electrical Corp, complained on Jan 21 to NRECA that "right here in our own mill, which was financed completely without asking customers to put up any money whatever prior to receiving conductor, we have more idle production capacity at this time than is contemplated in the Reynolds program you outline." He added that his company's capacity is being boosted 50% and that ". . . there is additional idle producing capacity at least equivalent to that of ours . . ." Seaton, with many others, doesn't see why new capacity should be pre-financed by the customers when existing capacity stands idle for want only of ingot aluminum. Ingot, all point out, Reynolds can make and is now making. Cable, all insist, Reynolds doesn't now make and may not be able to make. But Reynolds has people who know cable manufacturing and one year to get into production.

TECHNICAL NOTES

ARCHER E. KNOWLTON

Fault currents have been getting larger and increasing the frequency of interruptions. More care is indicated in making and maintaining connections.

Pole-setting depth probably should be gauged to more factors than it is. Any justifiable saving would leave additional pole heights for ground clearance or broader shielding by the overhead ground wire.

Iron loss in motor and transformer cores across the country absorbs about as much annual output as that of the largest metropolitan power plants. Add their copper losses and the total equals a whole big system.

Secondary-voltage capacitors conceivably can be justified in small units at remote ends of feeders while transformers may be overloaded and the power factor not too good.

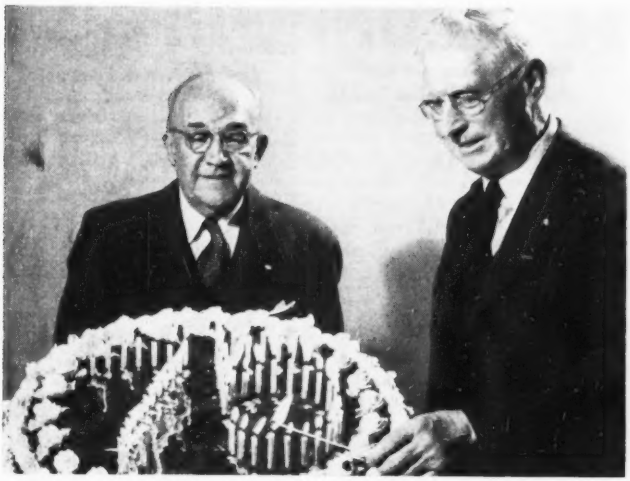
Power transformer inspection in the field can hardly be called complete if it does not establish maximum attained temperature, oil dielectric strength and condition along with observation of bushings, relief diaphragms and breathers.

Pumped hydro of an unorthodox nature is proving a practicable possibility. By pumping 100 ft, the water that would otherwise flow 1,500 miles to the ocean via the Platte is diverted to a 2,200-ft head development on the Brazilian plateau coast.

Hydrogen leakage can be less under higher pressure hydrogen-cooling operation, particularly if leakage into the water is obviated by having an excess of cooling-water pressure.

High voltage bushings give little trouble now that moisture is sealed out and there is no fibrous material to be affected adversely. Not as much can be said about some of the old bushings.

MANUFACTURERS and MARKETS



SEVENTY-FIFTH BIRTHDAY cake of the A. O. Smith Corp of Milwaukee, Wis., is lighted by Herman Welzien, in his 58th year of service with the organization. J. J. Stamm, treasurer, in his 51st year of service, looks on. The corporation was founded in downtown Milwaukee in 1874 by C. J. Smith and his sons

Sees 1949 A Record Year for Conductor Output

Production of Copperweld-Copper rural conductors in 1948 was 70% higher than 1940, the highest prewar year, W. W. Ege, general manager of sales of Copperweld Steel Co., Glassport, Pa., announced recently. Even greater production in 1949 is foreseen provided labor troubles and material shortages do not interfere, Mr Ege said.

The outlook for ending delivery delays is also bright, he reported. The company has reduced the delivery time for Copperweld-Copper conductors from the approximate four years that prevailed in 1946 to about one year in 1948. This has been accomplished in the face of an increasing volume of orders, handicaps of postwar labor troubles, and winter shortages of natural gas, which is the company's primary fuel for melting and heat treating copper and steel.

While Mr Ege saw 1949 as another record year, he cautioned that the company's performance will be influenced to a considerable extent by circumstances over which it has little or no control. For example, a crippling strike now in progress at one of the country's largest copper mines has greatly reduced the nation's supply of copper. This strike, coupled with the government's stockpiling of copper, has made it increasingly difficult to obtain enough copper to keep production of conductors at the maximum level, Mr Ege said.

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Foxboro Co Expands

Work has begun on an addition to the building at 5151 Baum Blvd, Pittsburgh, Pa., owned by The Foxboro Co, Foxboro, Mass. The building, erected in 1941, is wholly occupied by the company's Pittsburgh branch, which serves the important industrial areas of western Pennsylvania and parts of West Virginia, Kentucky and Ohio. The new addition, to be occupied in the early spring, will be used for the assembling of control valves and for warehousing an increased stock of valves and instruments.

Considers Another Big Aluminum Plant for B. C.

A second huge aluminum plant is in prospect for British Columbia if an adequate site and power supplies are available.

J. L. Reynolds, vice-president of Reynolds Metals Co of Richmond, Va., announced after conferences with provincial government officials in Victoria in mid-January that his company would start surveys for an aluminum plant site on the B. C. coast during the spring.

Reynolds Discusses Project

Reynolds Co is discussing a plant to produce a 1,000,000,000 lb of aluminum annually requiring a 1,000,000 hp of generating capacity.

Mr Reynolds declined to make any estimate of expenditures if his company goes ahead with plans for a plant, but it is assumed the outlay would approximate that already contemplated by the Aluminum Co of Canada, which announced plans for B. C. plant some months ago.

Aluminum Co of Canada has made a series of preliminary surveys along the coast, with further studies planned, and McNeely DuBose, vice-president, has estimated an expenditure running to $300,000,000 if his project, which is now under considertion, proceeds.

Sites Studied by Alcoc

Two chief sites studied by Alcoc are the Eutsuk Lake watershed, which would feed either into Gardner Channel or Dean Channel in the northern Prince Rupert area, and the Chilco-Taseko Lake system at the head of Bute Inlet, both being capable of producing close to 1,000,000 hp. Alcoc is now concentrating on the more northerly system and is examining both Kimsquit at the head of Dean Channel, and Kitimat, at the head of Douglas Channel, adjoining Gardner, as possible locations for a plant and townsite.

Like the Aluminum Co, Reynolds would have to import bauxite from some other part of the world, since there are no commercial deposits in British Columbia.

The B. C. government already has thrown a "map reserve" over the water-

shed areas under investigation, holding the land from alienation until the companies decide their course of action. Alcoc will get first choice of sites, Lands Minister Kenney said. The company is expected to make a decision on the site it is interested in by mid-February or March.

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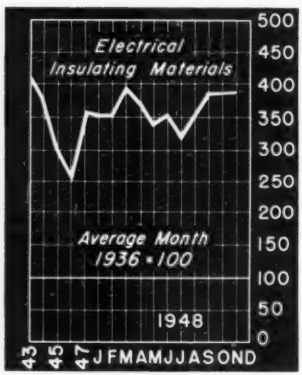
Insulating Material Sales Move Slightly Upward

For the fourth successive month, sales billed on electrical insulating materials during the month of November, 1948,



moved upward, according to figures released by the National Electrical Manufacturers Association. The index compiled by NEMA edged upward to 391 from 390 in October.

In November, 1947, the index stood at 345, the 1948 figure representing an increase of 13%.

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Argentina Calls for Bids on Electric Installations

The Argentine government, through the Direccion General de Agua y Energia Electrica, has called for bids on ten different installations of turbo-alternator and electro-mechanical installations on ten different projects in various parts of Argentina.

One of the largest is for erection of two turbo-alternators of 5,000 kw each in the Santa Fe division at a cost of more than $200,000. Others are for Aminga power station in the province of LaRioja, the power station at Salto de la Loma in San Juan province, and for the hydroelectric station at Los Quiroga dam in Santiago del Estero.

Communications should be addressed to Direccion de Agua y Energia Electrica, Secretariat de Industria y Commercio, Lavalle 1556 Buenos Aires.

NEW ELECTRICAL CONSTRUCTION

A weekly selection of U. S. electrical construction projects announced by private and government utility systems involving more than $70,000. Also listed are major industrial and construction jobs where electrical work is indicated or implied

UTILITIES

Proposed Construction

Alabama—Pea River Electric Co-operative, Clayton, 294 mi. rural distr. line, sys. imprvs., headquarters facilities, completion approved construction, Barbour Co. **$960,000.**

Arizona-Nevada—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., 15,000-kva substation near Blythe, Calif., approx. 12 mi. north of Blythe, Calif., in NE sec. 24, T 5 S, R. 23 E. approx. 2,000 ft. west of U. S. Hy. 95, Davis Dam Proj., Spec. 2538.

Arkansas—U. S. Eng., 300 Broadway, Little Rock, installing wire power house and switchyard equip. Norfolk Dam on north fork river White River Watershed in Baxter Co. about 4½ mi. northeast of Norfolk, 10 mi. southeast of Mountain Home. Serial No. Eng.-03-050-49-43.

Calif., Eldridge—State Div. Architecture, Pub. Wks. Bldg., Sacramento, mechanical and electrical services (sewer and water, and electrical lines, etc.) at Sonoma State House. Plans deposit $25. Anson Boyd, state archt.

Colo., Boulder—Public Service Co. of Colorado, 15 and Champa Sts., Denver, Valmount Power Plant addns., imprvs., **$590,000**; Boulder sub-station addns., and electric distr. sys., **$121,000.**

Florida—Central Florida Electric Co-operative, Chiefland, 93 mi. rural distr. lines and sys. imprvs., Levy Co. **$225,000.**

Kentucky—Cumberland Valley Rural Electric Co-operative Corp., Corben, 312 mi. rural distr. lines, sys. imprvs., headquarters facilities, Bell Co. **$950,000.**

Minnesota—Rural Co-operative Power Assn., Maple Lake, 383 mi. rural distr. lines, 30 substations, 11,500 kw. generating unit at plant near Elk River, 2,250 kw. diesel generating unit at Milaca, Hennepin Co. **$6,500,000.**

Missouri—Sac-Osage Electric Co-operative, El Dorado Springs, 383 mi. rural distr. lines, sys. imprvs., Cedar Co. **$825,000.**

Mo., St. Louis—City, Milton M. Kinsey, pres. Bd. P. Service, 304 City Hall, Zone 3, repair and maintenance municipal street lighting sys. $660,000.

New Mexico—Continental Divide Electric Co-operative, Inc., Adams, mgr., Gallup, 176 mi. rural distr. lines and constructing substation, city of Gallup. Plans deposit $25. Southwest Engineers, Transit Tower, San Antonio, Tex., engrs. and archts.

O., New Richmond—Cincinnati Gas & Electric Co., 4 and Main Sts., 2 story, brick, aluminum power plant, concrete fdns., incl. access roadways, grading, drainage. **$6,000,000.** Sargent & Lundy, 140 S. Dearborn St., Chicago, Ill., consult. engrs. James B. Cook, c/o owner, engr.

Oregon—Northwest Power Supply Co., Public Service Bldg., Portland, hydroelectric proj., incl. dam on federal lands on Deschutes River, near Madras, Jefferson Co. **$12,000,000.** Thomas M. Robins, c/o owner, engr.

Pa., Harrisburg—Dpt. Pub. Instruction, c/o A. W. Castle, chf. Extension Educa., Bureau, 12-station FM state network for education purposes. **$1,000,000.**

South Dakota—U. S. Eng., 1709 Jackson St., Omaha, Neb., turbines for Fort Randall Dam, Inv. No. Eng. 25-066-49-172. $2,000,000-$4,000,000.

Washington—Bonneville Power Admin., 729 N. E. Oregon St., Portland, Ore., Franklin switching station, McNary-Pasco line terminal, adjacent to Franklin substation, 1.25 mi. east of Pasco, Franklin Co., Inv. 4472. Plans deposit $10.

Washington—Bonneville Power Admin., 729 N. E. Oregon St., Portland, Ore., constructing Mason substation and Mason line terminal at Shelton substation, Inv. 4477. Plans deposit $25.

Wyoming—Bureau Reclamation, Dpt. Interior, Casper, Medicine Bow substation, Kendrick Proj. just north of U. S. Hy. 30 at west end of town of Medicine Bow, Spec. 2539.

Low Bidders & Contracts Awarded

Calif., San Francisco—KNBC Broadcasting Station, 720 Taylor St., and KRON Broadcasting Station, 5 and Mission Sts., 1 story, rein.-con. FM television station to Barrett & Hilp, 918 Harrison St., San Francisco, Est. **$125,000.** Irvin Wm. Goldstine, 821 Market St., archt. Ellison & King, 1045 Sansome St., engrs.

Mass., East Boston—Commonwealth of Mass., P. Wks., Dpt., 100 Nashua St., Boston, Jan. 18, Proposals A and B, electrical services for terminal facilities, Logan Airport, from D. A. Robbins Electric Co. P. O. Box 53, Chestnut Hill, **$155,680** and **$121,090** respectively.

Missouri—Culvre River Electric Co-operative, J. W. Schaper, pres., Troy, Jan. 19, labor, 271.041 mi. rural distr. lines, Lincoln St. Charles and Warren Counties, also 200 units, right-of-way clearing. Proj. Missouri 57AB Lincoln, Sect. IV, from Cater Constr. Co., 1016 Baltimore Ave., Kansas City, Mo., **$150,116.**

Mont., Fort Peck—U. S. Eng., Fort Peck, generator at power plant, Serial No. Eng. 24-016-49-29, to Allis Chalmers Mfg. Co., 1126 S. 70 St., Milwaukee, Wis., **$685,200.** Bids 1/4.

Neb., Hastings — City, power plant equip., generating equip., to Fuel Economy Eng. Co., 510 New York Bldg., St. Paul, Minn., **$118,563.** Bids 1/13.

Tex., Bellville — Houston Lighting & Power Co., 1016 Walker St., Houston, transmission and distr. lines, own forces. **$375,000.**

INDUSTRIAL, COMMERCIAL & PUBLIC BUILDINGS

Proposed Construction

Ariz., Phoenix—U. S. Eng., 751 S. Figuerosa St., Los Angeles, Calif., plans by Lescher & Mahoney, Title and Trust Bldg., 200-bed veterans hospital for Veterans Admin., Vermont Ave. between H and I Sts., N. W., Wash., 25, D. C. **$4,000,000.**

Calif., San Jose—F. W. Woolworth Co., 29 S First St., 2 or 3 story store, **$1,000,000.**

Conn., Hartford—State, Raymond Thatcher, comptroller State Capitol, Hartford, 1000 bed brick, steel, concrete infirmary for old folks, **$7,500,000.**

Mich., Detroit—General Motors Corp., 2-153 General Motors Bldg., research center. Over **$50,000,000.** Argonaut Realty Div., General Motors Corp., 304 General Motors Research Bldg., engr. and archt.

Mo., Columbia—University of Missouri, Bd. Curators, Leslie Cowan, Jesse Hall, brick, concrete, steel general hospital. **$6,000,000.**

Tex., El Paso—Providence Memorial Hospital, Dr. L. L. Evans, 617 N. Santa Fe St., 5 story, bsmnt., hospital and nurses home, $2,500,000. Carroll & Daeuble, 1001 Yandell Blvd., archts. Landauer & Guerrero, 4801 Lemmon St., Dallas, engrs.

Low Bidders & Contracts Awarded

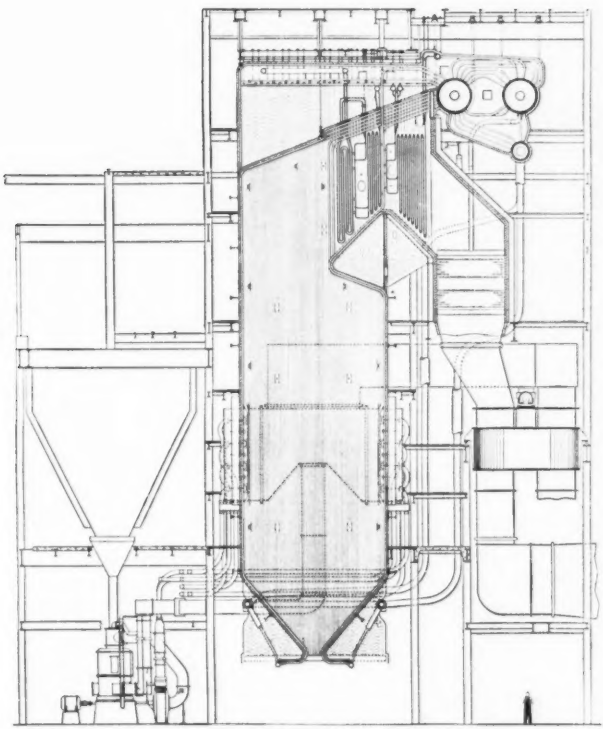
D. C., Wash.—Pub. Bldgs. Admin., 18 and F Sts. N. W., general accounting office bldg., G and H Sts. between Fourth and Fifth Sts. N. W., from John McShain, Inc., 17 and Spring Garden St., Phila., Pa., **$21,572,000** escalators, from Westinghouse Electric Corp., Commonwealth Bldg., **$619,815** elevators, from General Electric Co., Shoreham Bldg., **$765,184.**

Tenn., Nashville—Methodist Publishing House, 810 Broad St., Jan. 18, printing plant addn., from R. C. Mathews, Inc., 3rd Natl. Bank Bldg., **$1,107,871.**

Recent C-E Steam Generating Units for Utilities

RICHMOND STATION

PHILADELPHIA ELECTRIC COMPANY



THE C-E Unit illustrated here is one of two such units now in process of fabrication for the Richmond Station of the Philadelphia Electric Company.

Each of these units is designed to produce, at maximum continuous capacity, 800,000 lb of steam per hr at 1335 psi and 950 F.

The units are of the radiant type, equipped with 3-stage superheaters, finned-tube economizers and regenerative type air heaters. Furnaces are fully water cooled, using closely spaced plain tubes throughout. They are of the basket-bottom type discharging to collecting hoppers.

Pulverized coal firing is employed, using C-E Raymond Bowl Mills and Vertically-adjustable, Tangential Burners. Provision is made to use oil as an alternate fuel with arrangements for the future use of natural gas.

B-291

C-E

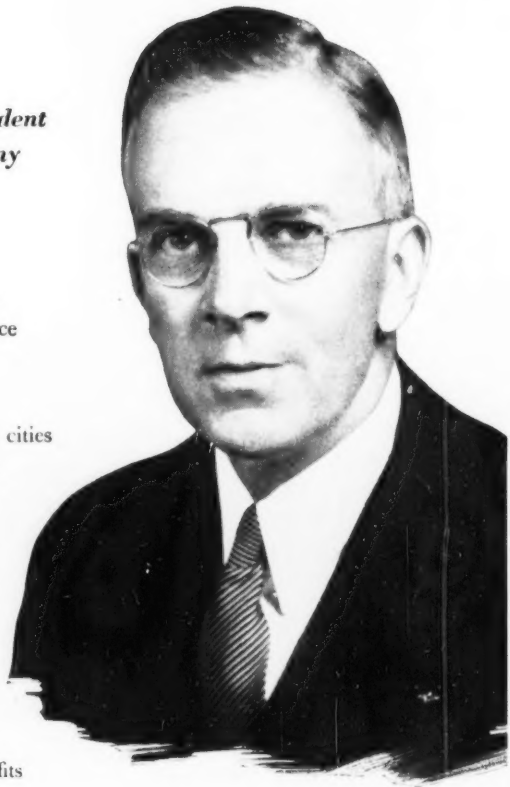
Combustion Engineering-Superheater, Inc.

A Merger of COMBUSTION ENGINEERING COMPANY, INC. and THE SUPERHEATER COMPANY

200 MADISON AVENUE, NEW YORK 16, N. Y.

"Sell modern Street Lighting and you sell Public Safety..."

says **P. H. Powers,** *President*
West Penn Power Company
Pittsburgh, Pa.



"THAT modern street lighting is a vital factor in public safety has been proved by the experience of many Western Pennsylvania communities which have adopted Planned Street Lighting Programs. Crime has been prevented and accidents reduced in cities all over America where street lighting is adequate," says P. H. Powers, President of West Penn Power Company, Pittsburgh, Pa.

"It is my firm conviction," continues Mr. Powers, "that it behooves utilities everywhere to foster public interest in improved street lighting.

"For the 'man on the street' and the woman in the home are keenly conscious of the many benefits to be enjoyed through the medium of modern street lighting. People *know* it to be a *safe* investment for their community . . . that it pays *real* dividends in terms of increased property values, builds better business for local tradesmen, and materially reduces crime and accidents."

FOR MORE FACTS . . .
To "shed more light" on methods employed by a utility to stimulate interest in modern street lighting, write for your free copy of "A Planned Program for Better Street Lighting."

The Street and Traffic Safety Lighting Bureau, 155 East 44th St., New York 17, N. Y.

New G-E Wiring System Offers Unlimited Possibilities In Modern Lighting Control

Multiple Switching from Many Locations Available at Low Installation Cost With G-E Remote Control

Switch your garage lights ON or OFF from any room in your home—in hospitals, give every patient a light switch next to his bed—in industrial plants and commercial buildings, let every night watchman have a centralized bank of switches for all lights in his area. These are just a few of the many possibilities that can be brought about by the new remote control system, recently announced by the General Electric Company.

Easy to Install

Using existing methods for wiring all power circuits, the General Electric remote control system requires no new materials or techniques except in the switching circuit itself. In this circuit a small, low-voltage relay does the actual switching. Control of this relay can be placed practically anywhere in a building, simply by installing lightweight wires from the relay to conveniently located wall switches, specially developed for this purpose. "Easy as wiring a doorbell," is the way one observer described this circuit.

Because this new system cuts the cost of materials used in multi-switch applications, because it makes possible a large number of controls on any individual circuit, General Electric remote control clears the way for wide use of multi-switch control in structures of all types.

Keeps Costs Down

In residential wiring, this new system means real "dream-home" electrical control even in residences where costs must be cut to the bone. Simple applications include the example of garage lights given above—also attic fan and cellar light controls in various parts of the house. In the completely modern house, all lights and outlets can be controlled from various locations.

In dormitories, institutions, and commercial buildings, General Electric remote control can provide an effective centralized system for lighting control. Wherever "lights-out" regulations are in effect, a master panel of remote control switches can be used to enforce these regulations for an entire building or a whole floor. In commercial structures or plants, a similar system can be used to turn out lights left on after hours. Commercial and industrial operations can profit by the over-all multi-switch control offered by this system.

Offers New Ideas

To everyone concerned with building and remodeling, this new system offers a completely new range of ideas on flexibility in the use of electricity. To the architect, it means a new era in electrical convenience in structures of all sizes and types. To the buyer and the investor, it means increased workability and extra value, now and in the years to come. To the electrical contractor, General Electric remote control offers a vast, new field for his services.

To answer questions on the applications of General Electric remote control—to explain the procedure and the materials required—the General Electric Company has prepared an informative booklet on the subject. This booklet is a valuable guide for everyone interested in this new system. To get your copy early, simply fill out the coupon and mail it today.

Here are the essential components of the new General Electric remote control system: the switch, the small transformer (not shown), the relay, and the lightweight No. 18 wire. All accessories necessary for the system are manufactured by General Electric and sold through your General Electric Construction Materials distributor.

Learn the Facts

Mail Coupon Now

Section D28-227
General Electric Company
Bridgeport 2, Connecticut

Please send me your new booklet on General Electric remote control.

(Name)_____ (Title)_____

(Company)_____

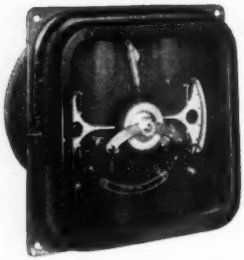
(Street)_____

(City)_____ (Zone)_____ (State)_____

GENERAL ELECTRIC

ROCKING CONTACT

with Allis-Chalmers ROCKING CONTACT Generator Voltage Regulator



Type 366 Rocking Contact Generator Voltage Regulator. In motion only when change in excitation is required by voltage variation.

YEARS of trouble-free service . . . and you get instant response, accuracy, low maintenance besides. Here's how:

Design is simple, and although the Rocking Contact Regulator is a watch-like instrument, it has been built for rugged industrial use. No complex adjustments, no vibrating contacts, no gliding friction to make it a maintenance problem.

Regulation is quick, accurate because it operates directly in the exciter shunt field circuit . . . without relays. Generator rheostat losses are reduced to a minimum.

Rocking Contact Regulators are available for both a-c and d-c generators of any size and speed, for either parallel operation or unit control. Call your nearby Allis-Chalmers office, or write direct.

A 2585

ALLIS-CHALMERS, 932A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

Pioneers in Power and Electrical Equipment From Generation Through Utilization

NEWS ABOUT PEOPLE

Okonite Elects Metz Head, Stevens Executive V-P

Albert F. Metz, formerly vice-president and treasurer of The Okonite Co, Passaic, N. J., has been elected president and general manager to succeed the late Frank C. Jones. Donald R. Stevens, previously a vice-president, has been elected executive vice-president and a member of the executive committee.

ALBERT F. METZ

Mr Metz joined Okonite in 1919 as accountant, following previous connections as assistant to the comptroller of Famous Players Lasky Corp and as disbursing officer and auditor for the U. S. Shipping Board during World War I.

DONALD R. STEVENS

During his 30 years with Okonite he also was comptroller and treasurer.

Mr Stevens joined the organization in 1921 as superintendent and became vice-president and works manager in charge of its three plants, The Okonite Co, Passaic, Hazard Insulated Wire Works Division, Wilkes-Barre, Pa., and the Okonite-Callendar Cable Co, Inc, Paterson. Mr Stevens is also a director of The Okonite Co.

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Herbert E. Cook has been elected managing director of the Electrical Association of Detroit with offices at the association's new quarters in the Guardian Bldg. Previously he was associated with the General Electric Co at Harrison, N. J., and San Francisco, Calif. and with the lighting sales and customer service division of the Detroit Edison Co.

C. H. George, formerly with the Puget Sound Power & Light Co, has been appointed manager of the Chelan County PUD at Wenatchee, Wash, to succeed LEWIS SHREVE, who will continue as consultant to the PUD commission. The PUD recently purchased Puget Sound Power & Light properties in the county. Mr George had been with the private power company for 35 years, 23 as superintendent of maintenance at Wenatchee.

Loren W. East, Los Angeles consulting engineer, has been appointed public utility engineer for Oakland, Calif. Mr East served with the California Public Utilities Commission from 1930 to 1943, when he resigned to enter private practice, specializing in utility and transportation consulting work. While working for the California PUC his services were granted on a consulting basis to the State of New Mexico to organize a public utilities commission for that state.

Sidney B. Vaughn, assistant superintendent of the meter department of the Florida Power Corp, St. Petersburg, since 1945, has been appointed supervisor of the department. He is succeeding S. H. Stiles, retired. **V. A. Cramer** has succeeded Mr Vaughn as assistant superintendent. Mr Vaughn has been connected with the company since 1927. Mr Cramer served in the meter department of the Atlantic City Electric Co for 27 years, advancing to the position of general meter superintendent.

Leonard to Direct PP&L Operations in Oregon

Appointment of D. B. Leonard as assistant general manager of the Pacific Power & Light Co, in charge of the utility's Oregon operations, has been announced. He succeeds Charles M. Sanford, who temporarily will act in a consulting capacity to the president and vice-president and general manager pending his retirement from active service.

Mr Leonard has been with the company since 1929 and was acting assistant general manager in charge of the company's Washington operations until his appointment as sales manager of the system in 1947.

D. B. LEONARD

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Lewis A. McArthur, Portland, Ore., has retired from the Pacific Power & Light Co after 38 years of service. He joined the company at its organization in 1910. For 25 years he was a director and from 1917 to 1937 he headed the company's operations as general manager. He was vice-president from 1922 until his retirement.

George B. Horn, formerly secretary and assistant general manager of the Wheeler Insulated Wire Co, Inc, Bridgeport, Conn., has been named vice-president. Mr Horn joined Wheeler as general superintendent in 1934, later being promoted to assistant general manager, then to secretary and assistant general manager. He obtained his early experience with the General Electric Co

in Fort Wayne and later was connected with the Dudlo Manufacturing Co in that city for 11 years in the capacity of chief engineer. Mr Horn then served for seven years as chief engineer of the coils and magnet wire division of the General Cable Corp in Fort Wayne and in Rome, N. Y.

Alice H. Drew has been appointed advertising manager of the Duro-Test Corp, North Bergen, N. J. Miss Drew was formerly advertising director of Holtzer-Cabot Motors, Boston.

Robert Gray has been appointed technical service engineer of the Leece-Neville Co, Cleveland. He succeeds T. G. Pasco. Mr Gray was formerly in charge of the company's experimental laboratory. He was with the Ohio Bell Telephone Co and the Cleveland Electric Illuminating Co before joining Leece-Neville in 1941.

Darrow Sage, mechanical operating engineer in the general office of the electric department of the Public Service Electric & Gas Co, Newark, N. J., has retired after completing more than 28 years with the company. Mr Sage served at the Essex, Paterson, Marion, and Kearny stations of the company in engineering capacities before he was brought to the general office in Newark in 1937 to fill the position from which he has just retired.

OBITUARY

Charles A. Scott

Charles A. Scott, who participated in the founding of the Rome Cable Corp, Rome, N. Y., and was identified with that organization as executive vice-president and sales director until 1945, died on Jan 21 in Wynnewood, Pa. He was 53 years old. At the time of his death, Mr Scott was director and vice-president in charge of wire mill production of Walker Brothers, manufacturer of underfloor conduits and wires and cables at Conshohocken, Pa.

Mr Scott went to Rome in 1920 from the B. F. Goodrich Co, Akron, Ohio, at the time the Rome Wire Co bought out the Buffalo division of Goodrich. After Rome Wire merged with General Cable Corp he remained with the latter organization until 1933. Two years later he was appointed sales manager for The Rome Co and then became associated with Rome Cable.

He was a member of the Defense Industry Advisory Committee for Copper and Zinc Industries and served as adviser to several defense agencies during World War II.

Frank C. Jones

Frank C. Jones, president and general manager of The Okonite Co, whose death was announced in Electrical World Jan 29, p. 96, became identified with the company following the death of his father, Frank C. Jones, who with John H. Cheever established Okonite in 1878.

A graduate of Harvard University, Class of 1910, Mr Jones started his business career with B. T. Babbitt, Inc,

FRANK C. JONES

and later was treasurer of Edgar A. Wilhelmi, Inc, export agents. In 1914 he established an importing business, Jones & Cammack, which he left in 1917 to enter military service. Joining Okonite as a director, he was elected treasurer and general manager in 1919 and in 1932 was made president and general manager. He was also president of The Okonite-Callender Cable Co, Inc, Paterson, N. J.

Since 1931 Mr Jones had been a member of the board of governors of the National Electrical Manufacturers Association, serving as president of that organization for two terms in 1935 and 1936. He was a member of the board of directors of the National Association of Manufacturers, a member of the Department of Commerce Business Advisory Committee, and during the war a member of the Copper Industry Advisory Committee of WPB.

•

Howard J. Mandernach, manager of the New York district of the electronics department of the General Electric Co, died in New York on Jan 25 after a long illness. He was 49 years old. A native of Chicago, Mr Mandernach had been associated with GE since 1936.

Albert L. Pearson, 69, electrical engineer for eight years, construction division, Metropolitan District Commission, Boston, died suddenly in his office on Jan 20. He was employed on various assignments in his earlier career by Lockwood, Greene & Co, N. J. Neall, Howard M. Turner, and Jackson & Moreland, all Boston consultants. Mr Pearson was recently identified with the electrical design of the commission's hydro facilities at the Quabbin Reservoir in west central Massachusetts.

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Maurice M. Samuels

Maurice M. Samuels, electrical engineers, died on Jan 29 in New York after a long illness.

Born in Lithuania in 1880, Mr Samuels received his engineering education in Karlsruhe, Germany, and came to this country in 1906. He obtained his early experience with the General Electric Co and Westinghouse, Church, Kerr & Co and then spent 20 years with the J. G. White Engineering Corp.

Mr Samuels joined the Washington staff of the Federal Power Commission in 1934 and was transferred to the commission's regional office in New York. He became associated with the Rural Electrification Administration in 1938 as chief operations engineer and subsequently served as chief research engineer and chief of the technical standards division. For the past two years he had engaged in consulting engineering work.

He introduced several new ideas now widely used in power system design,

MAURICE M. SAMUELS

rural electrification, power economy, and electric rate analysis. He was a fellow of the AIEE.

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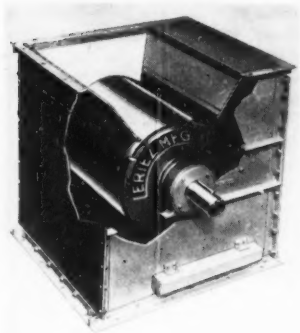
Ernest H. Foster, engineer and industrialist, died on Jan 23 in Daytona Beach, Fla., at the age of 83. Mr Foster and his cousin, the late Pell W. Foster, developed the Foster steam superheater after they founded in 1900, the Power Specialty Co, which later became the Foster Wheeler Corp.

NEW EQUIPMENT



Drum Separator

FOR THE AUTOMATIC removal of tramp iron and fine ferrous contamination from materials conveyed in spouts or chutes, a magnetic drum requiring no electric current to produce the field is announced by the Eriez Mfg Co, 467 E. 12th St, Erie, Pa.

Each unit consists of a revolving cylindrical shell within which a stationary Alnico magnet is located, the magnet covering about half the cross-sectional area of the drum. Two chutes in the bottom of the housing receive process material and tramp iron.

Available in sizes including 12, 18 and 24-in. diam and in drum widths up to 50 in., the separators are reported to require no maintenance; and have no loss of magnetism through heating.

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Indirect Lighting Fixture

THE VISIONAIRE 1800 Series, a luminous, indirect, 4-lamp, slimline fixture, has been developed to produce a "bat-wing" type of light distribution, which is said to result in high level light and low surface brightness.

The manufacturer, Sunbeam Lighting Co, 777 E. 14th Place, Los Angeles 21, Cal., advises that Visionaires should be used only for rod suspension installations and may be adapted to continuous row lighting.

Designed to be installed by one man, the fixture has Plexiglas reflector-diffuser panels and aluminum reflectors; is supplied with 300-ma ballasts; and will be available for 50 or 60-cycle operation.

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Natural Gas Odor Control

AN X-RAY photometer, designed by the General Engineering and Consulting Laboratory of General Electric Co, can now be used to control the amount of unpleasant odor introduced into natural gas which serves to warn industrial workers and housewives of leakage. The smell comes from sulphur compounds chemically known as mercaptans, a small quantity of correctly balanced mercaptans being sufficient for quick detection.

The photometer operates by measuring the extent to which a test material absorbs a beam of x-rays. By using an aluminum disk of varying thickness as a standard of absorption, the instrument determines the quantity of any material mixed with another material of different atomic weight, General Electric engineers have claimed.

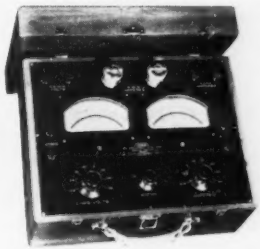
•

D-C Analyzer

THE MODEL 2700B d-c industrial analyzer has been designed for a wide multiplicity of uses by Cole Instrument Co, 1320 S. Grand Ave, Los Angeles 15, Cal. All equipment, including battery, is contained in one case.

Ranges are as follows: Volts, 0-15/150/300/750; amperes, 0-7.5/15/30/75/150/300/750; millivolts, 0-50; and ohms, 0-20/2,000/20,000. The millivolt range may be used with external shunt for additional ampere ranges. A pair of 8-ft calibrated leads are included. A sensitivity of 1,000 ohms per volt as well as an overall accuracy of ½ of 1% of full scale on all ranges is claimed.

The instrument is equipped with D'Arsonval type instruments and silver contact switches. Only two pair of current terminals are used to cover all ranges of amperage. The complete instrument measures 16¾ in. long, 14½ in. wide and 8⅜ in. high, weighs approximately 27 lb.



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Fire Extinguisher

A HANDY dry chemical fire extinguisher, for combatting flammable liquid and electrical fires, has been designed by Ansul Chemical Co, Fire Extinguisher Division, Marinette, Wis., for instant use upon removal from its mounting bracket.

Called the "Emergency Fireman", the unit contains two pounds of Ansul Plus-Fifty dry chemical which is nontoxic, non-corrosive, non-abrasive and a non-conductor of electricity. The powder is applied by a forceful sweeping motion and need be recharged only after use.

ELECTRICAL BUSINESS OUTLOOK

CURRENT STRENGTH in the money market should help utility financing—if this strength continues. The month of January saw a boomlet develop in Wall Street. More new common stock issues were sold than most market followers had believed possible. And utility stocks have participated in the New Year rise.

The bond market has been booming too. Bond prices have gone higher than at any time in 1948. This means that borrowing costs, as measured by bond yields, have dropped noticeably. The average yield on high grade corporate issues is now about 2.7%, compared with 2.8% last month and 2.85% a year ago.

Utility bond yields plummeted in January to the lowest level since November, 1947. They are now well below the rate prevailing in the last half of 1948. If money costs for the power companies hold near this level, interest charges—which rose last year—may show a drop in 1949.

THE BOND MARKET is reflecting confidence that interest rates on government bonds will be kept low. The Truman administration has always favored this. Yields on high grade corporate bonds nearly always follow the pattern set by governments. So the federal "easy money" policy acts to keep down the cost of private borrowing.

Another factor strengthening the bond market is the general expectation that corporate borrowing will decline in 1949. Many corporations have completed their heaviest capital expenditures. Falling commodity prices have lessened the need for capital to carry inventories. So less new money may have to be raised by bond issues.

It's far from certain that new issues will actually decline. If business carries out the plans revealed by the McGraw-Hill survey of capital expenditures, lots of capital will be needed in '49. And if profits are lowered by stiffer competition and higher taxes, the extra money will have to be borrowed.

Monetary authorities are unlikely to favor much lower interest rates than exist now. The Federal Reserve System can easily choke off a rise in bond prices by selling quantities of government bonds. So chances are against utility borrowing costs dropping a great deal further.

THE STOCK MARKET is on a much shakier foundation than the bond market. Stock prices have risen on news of high 1948 earnings and dividends. Traders have also been encouraged by Congressional opposition to higher taxes and by the prospect of inflationary government expenditures.

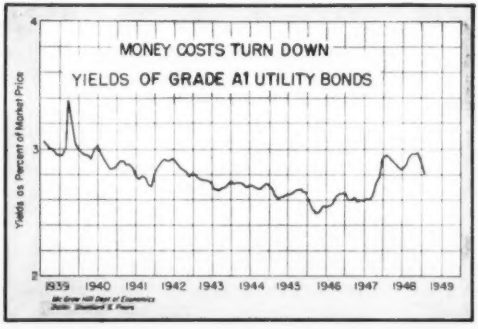
However, the outlook for business profits in '49 is still uncertain. And so is final action on taxes. Any change in the picture would quickly be reflected in stock prices. Moreover, heavy income tax collections in the coming month will decrease the supply of money available for investment in securities. This alone could slow up the boom.

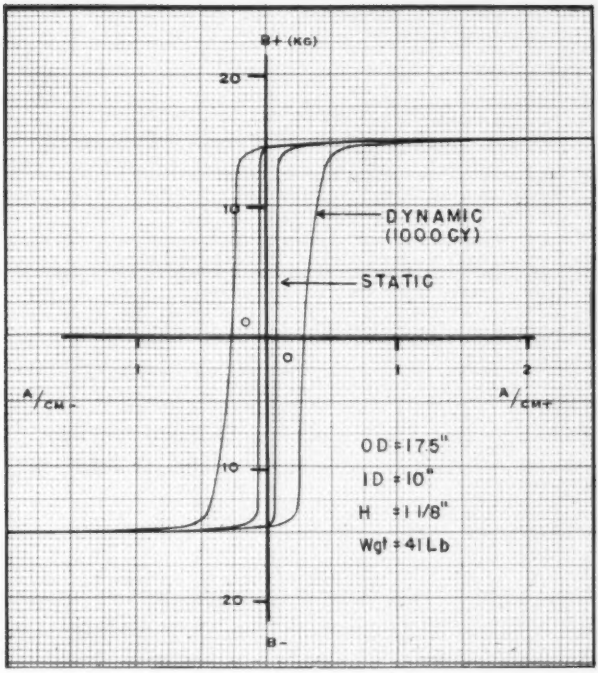
But power companies should benefit from the market's revival. Conditions now appear favorable for limited issues of either preferred or common stock by utilities. High dividend rates would probably be necessary. But temporary strength in the equity market provides the best opportunity to sell stock that the power companies have had in some time.

Utilities recently surveyed by ELECTRICAL WORLD plan to raise nearly a third of the funds for 1949-53 construction by new stock issues. This equity financing will be necessary to maintain sound capital-structures. But stock sales to date have not provided this proportion. So, despite the firm bond market, the biggest aid to utility financing would be continued strength in stocks.

LOWER MONEY RATES are the best short term bet to decrease total cost of new utility construction. Prices of construction materials can't be expected to decline greatly in 1949. Some shading has already taken place in lumber prices. But supplies of steel and cement are expected to be tight for months.

Meanwhile construction wages are likely to go higher. The building trades are expected to participate in a fourth round of wage increases. This would offset the gains in worker efficiency which are being made by better building methods. Both labor and contracting costs should be cut by a smoother flow of materials and better scheduling as the year wears on. But even a 5% cut seems a lot to hope for.





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